GALLOPER Ⅱ

GALLOPER II

OWNER'S MANUAL

FOREWORD

Thank you for choosing Hyundai. We are pleased to welcome you to the growing number of discriminating people who drive Hyundai vehicles. The advanced engineering and high-quality construction of each Hyundai is something of which we're very proud.

Your Owner's Manual will introduce you to the features and operation of your car. It is suggested that you read it carefully since the information it contains can contribute greatly to the satisfaction you receive from your new car.

The manufacturer also recommends that all service and maintenance on your car be performed by an authorized Hyundai dealer. Hyundai dealers are prepared to provide high-quality service, maintenance and other assistance that may be required.

Hyundai reserves the right to make changes in design and specifications and to make additions to or improvements in its products without obligation to install them on products previously manufactured. It is an absolute requirement for the driver to strictly observe all laws and regulations concerning vehicles.

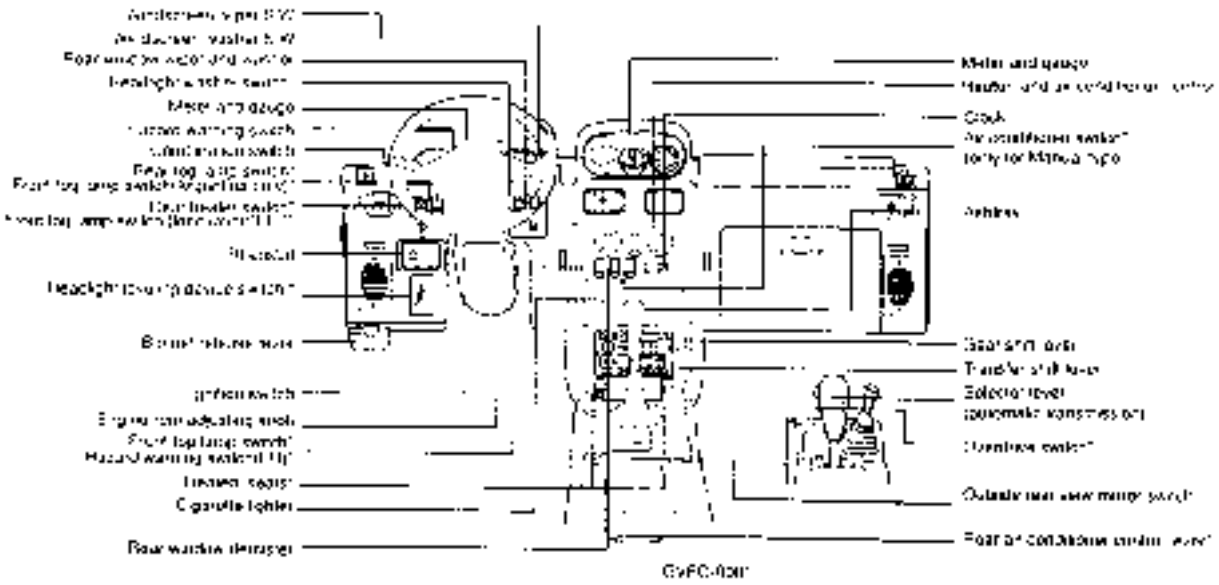
This manual has been written in compliance with such laws and regulations, but some of the contents may become contradictory with later amendment of the laws and regulations.

HYUNDAI MOTOR COMPANY

NOTE : Because future owners will also need the information included in this manual, if you sell this Hyundai, please leave the manual in the vehicle for their use. Thank you.

Table of contents

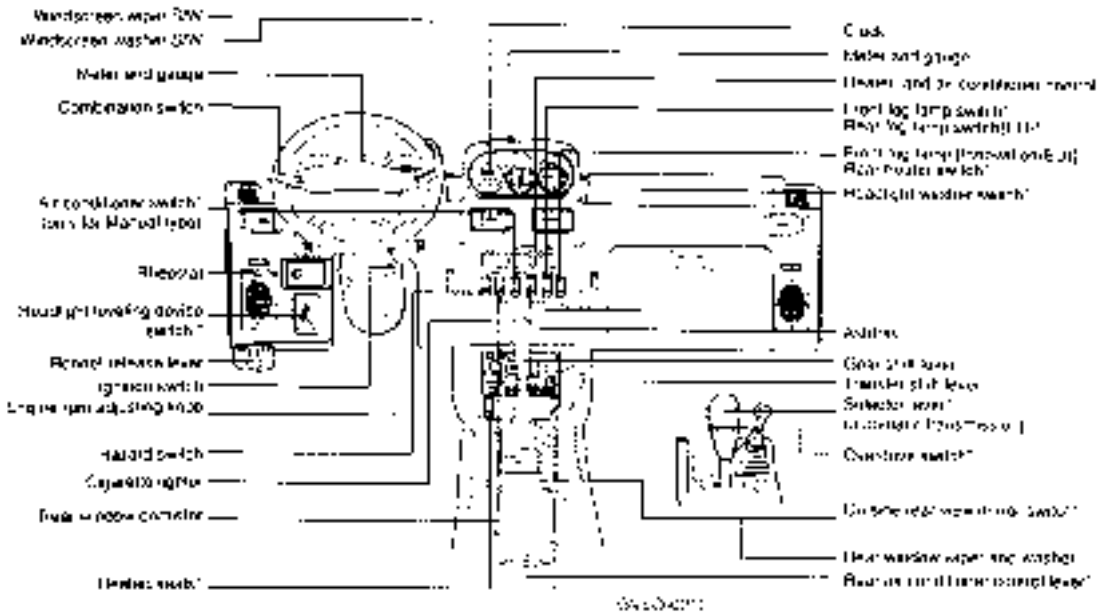
Instruments and controls (without airbag)



GVEC-0301

<indication of applicability>
Optional equipment marked with an asterisk may differ according to the country it is sold in or the sales classification; refer to the sales catalogue

Instruments and controls (with airbag)*



<indication of applicable>
Optional equipment marked with an asterisk may differ according to the country it is sold in or the sales classification. Refer to the sales catalogue.

MEMO

Safety precautions and driving tips

Ignition switch

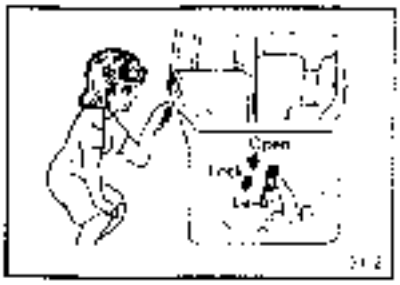
Do not remove the ignition key from ignition switch while driving.

(1) If the key is accidentally removed while driving, the steering wheel will lock, making it impossible to control the vehicle.

(2) If the engine is stopped while driving, the brake servo mechanism will cease to function and braking efficiency will decrease.

(3) If the engine is stopped while driving, power steering system will not function and it will require more manual power to operate the steering wheel.

Carrying children

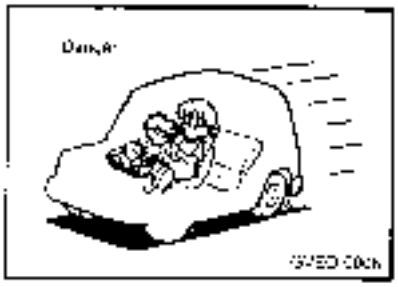


(1) Never leave a child in the vehicle unattended.

(2) If a child is seated alone in the rear seat, use the child protection system.

(2) Be careful of children's fingers when operating electric windows.

Seat and seat belt



(1) Never adjust the driver's seat while the vehicle is in motion.
Adjusting the seat while driving could cause the driver to lose control of the vehicle.

(2) Do not pile luggage or cargo higher than seatbacks for your safety.

(3) For technical reasons, the second seat and main seat should not be folded down to make a bed while the vehicle is being driven.

(4) To protect you and your passengers in the event of an accident, it is most important that the seat belts be worn correctly when you drive.

(5) The seat belt will provide maximum protection for its wearer if the reclining seatback is placed in its most upright position. When the seatback is reclined there is greater risk that the passenger will slide under the belt especially in a forward impact accident, and may be injured by the belt or by striking the instrument panel or seatbacks.

Loading

Loading should not be to the point at which the Maximum Gross Vehicle Weight, Maximum Front Axle Weight or Maximum Rear Axle Weight is exceeded.

Pay close attention to the following in order to maintain good driving characteristics.

(1) Secure loaded goods properly to keep them from breaking or flying all over the vehicle if it makes a sudden stop or turn.

(2) Always close the back door securely when driving to keep exhaust gases from entering the vehicle.

(3) Secure loads over the axle as closely as possible. Placing them on the side or rear will unbalance vehicle weight.

(4) Be cautious to keep loads from loosening or rubbing against the rear window to avoid damage to rear window hot wires.

Automatic transmission*

(1) Before selecting a gear with the engine running and the vehicle stationary, fully depress the brake pedal to prevent the vehicle from creeping.
Because the vehicle will begin to move as soon as the gear is engaged, especially when the engine speed is high at fast idle or the air conditioner operating, the brakes should be released only when you are ready to drive away.

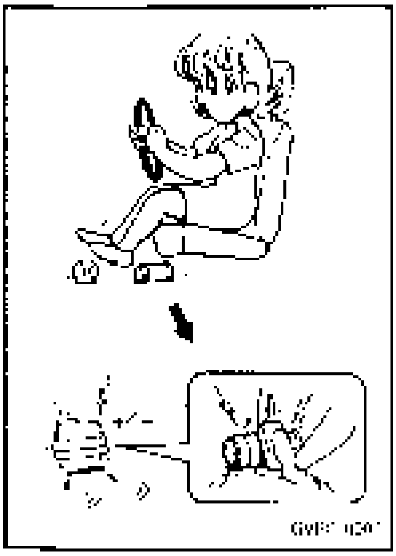
(2) Depress the brake pedal with the right foot at all times. Using left foot could cause driver moment delay to sudden maneuver in case of an emergency.

(3) To prevent sudden acceleration, never race the engine when shifting from the "P" or "N".

(4) Operating the accelerator pedal while the other foot is resting on the brake pedal will affect braking efficiency and may cause premature wear of brake pads.
Do not race the engine with brake pedal pressed. This can damage the transmission.

Brake system

All the parts of the brake system are critical to safety. Have the vehicle serviced by a GALLOPER dealer at regular intervals according to the service standards.



(1) The service brake is divided into two brake circuits so that when one brake circuit fails the other is available to stop the vehicle. If this occurs, however, the brake pedal must be depressed further than usual; stop driving as soon as possible and have the brake system serviced at the nearest [illegible] dealer.

(2) Do not leave any objects or place a thick floor mat around the brake pedal; doing so could prevent the full pedal stroke that would be necessary in an emergency. Make sure that the pedal can be operated freely at all times.

(3) If the vehicle is equipped with a brake warning lamp, the lamp will light up if the brake fluid level is abnormally low.

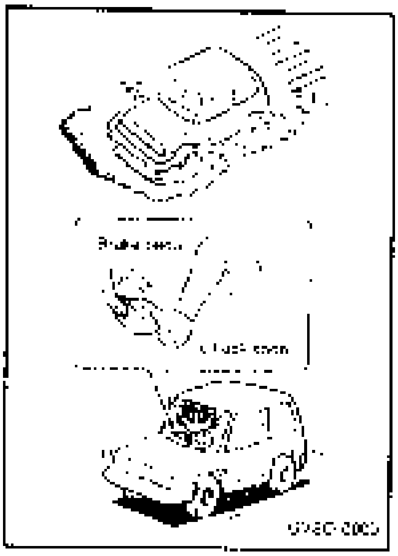
(4) If the vehicle is equipped with a brake booster, the brake boosting force is lost after the brake pedal is depressed once or twice while the engine is off. If this occurs, the brake will require greater force than usual.

This is especially important when the vehicle is being towed.

On diesel powered vehicles, the brake booster will no longer function if the V belt is broken. In this case, use engine braking (downshifting) to reduce the speed of the vehicle and then depress the brake pedal with more force than usual to stop the vehicle in a safe place.

(5) Check the brake system while driving at a low speed immediately after starting, to confirm that it works normally. A film of water can form on the brake discs and prevent normal functioning after driving in heavy rain or through large puddles, or after the vehicle is washed. If this occurs, repeatedly tap the brake pedal lightly while driving to dry out the brakes.

(6) It is important to take advantage of the braking power of the engine by shifting to a lower gear while driving on steep downhill roads in order to prevent the brakes from overheating.



(7) With new brake pads or linings, if possible, avoid applying the sudden brakes fully during the first 200km (124 miles) of driving.

6. Operating conditions and driving habits influence the wear of the brake linings. In some cases, therefore, it may be necessary to have the thickness of the brake linings checked by a GALLOPER dealer at shorter intervals than stated in the Service Booklet, especially at [illegible] This applies especially to people who drive mainly in the city or for short distances, as well as to those who have a sporty driving style.

Anti-lock brake system* (ABS)

When the brakes are applied on a moving vehicle, excessive force on the brake pedal or a [illegible] on the road surface could cause the vehicle to skid. If such a skid occurs, the braking force will be reduced and the braking distance increased, and the vehicle could turn sideways and go into a spin with the driver losing control.
The ABS prevents the wheels from locking during braking, thus maintaining directional stability, ensuring controllability and providing optimum braking force.

Driving hints

(1) Even with the ABS, the steering wheel operation during sudden braking (when the ABS is active) differs slightly from when the brakes are not being applied. Be sure to operate the steering wheel carefully.

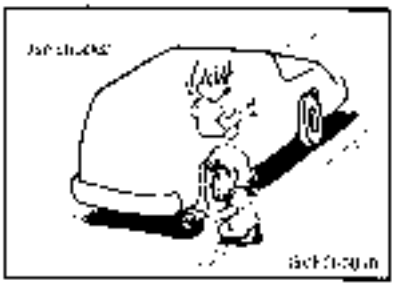
(2) Although the braking distance for vehicles equipped with an ABS is generally shorter than for those without, because this difference will vary according to the road condition and other factors, maintain the same distance from the vehicle in front of you as for a vehicle not equipped with an ABS.

(3) Also, because the braking distance on gravel or snowy roads may be longer than for a vehicle not equipped with an ABS, these roads should be driven at reduced speeds.

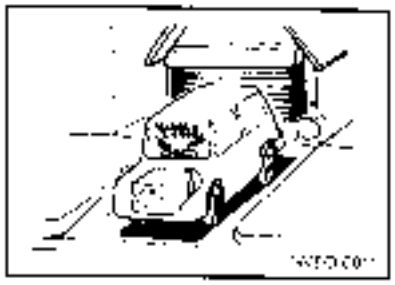
CAUTION

Even the ABS can not prevent the natural laws of physics from acting on the vehicle. It can not for instance avoid accidents that maybe resulting from excessive speed in turns, following another vehicle too closely or aquaplaning. It should remain driver's task with safety precautions to judge speeds and brake applications correctly in such conditions.

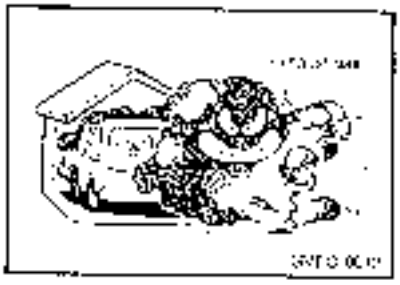
Parking



(1) When parking, fully engage the parking brake, and then set the gearshift lever in 1st or reverse for vehicles with manual transmission and set the selector lever to "P" position for vehicles with automatic transmission. (Set the transfer shift lever to any position except "N".) It is recommended for additional safety, that wheel chocks also be used on a hill.



(2) Do not keep the engine running for a long time in a closed or poorly ventilated place. Carbon monoxide gas is odorless and extremely poisonous and dangerous.



(3) Because the exhaust system produces high temperatures, avoid parking in a place where there are inflammable objects such as dry grass, rags, etc.

(4) Remove the key from the ignition switch when leaving the vehicle.

Power steering system

When the engine is stopped, the power steering system will not function and it will require more manual power to maintain the steering wheel. Keep that in mind in particular when towing the vehicle. Never tow all the engine while driving. Periodically check the power steering fluid level.

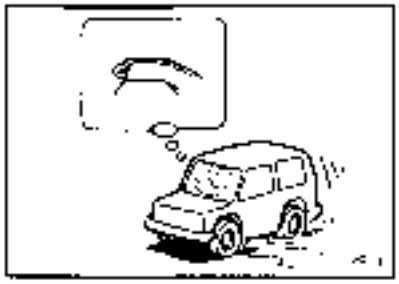
Turbocharger

(diesel-powered vehicles)

If your vehicle is equipped with a turbocharger, do not stop the engine immediately after operating the vehicle at high speeds. Allow the engine to idle for approximately 60 seconds or more to give the turbocharger a chance to cool down.

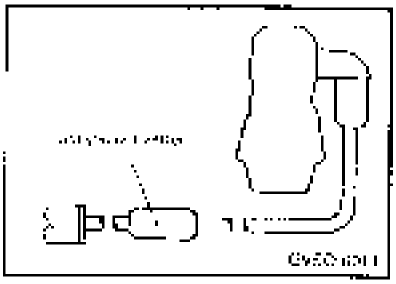
Driving out of mud

If one rear wheel gets stuck in the mud and starts spinning, try using the following method to drive the vehicle out of the mud.



1. Set the transfer shift lever to either 4H or 4L and use four wheel drive to drive the vehicle out of the mud.
2. If it is not possible to extract the vehicle, pull the parking brake lever slightly to just barely engage the brake (be sure not to engage it all the way) and try driving again. Depress the accelerator gradually and don't forget to release the parking brake once the vehicle is out of the mud.

Catalytic converter (if installed) (gasoline-powered vehicles)



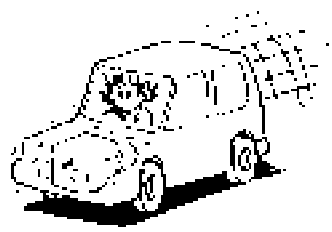
In normal use, there are no particular cautions regarding handling except for the use of lead-free gasoline. Exhaust gas purification systems equipped with the catalytic converter are extremely effective in reducing noxious gases. The catalytic converter is installed in the exhaust gas system. Because the catalytic converter becomes very hot at times, the following points should be given attention to ensure safety.

- Do not park the vehicle near inflammable materials.
- Do not apply an undercoat to the catalytic converter.

The catalytic converter that is abnormally hot requires high temperatures, and overheating may result in damage. Care should be taken regarding the following points to prevent unburned gasoline from entering the inside of the catalytic converter.

- Do not turn off the ignition switch while driving.
- Never start the engine by pushing the vehicle. If the battery is weak or dead, use other battery to start engine.
- If engine misfire such reduction in engine performance or engine gets hot, gasoline to enter the catalytic converter immediately and travel thereafter should be at low speeds. Contact your nearest HYUNDAI dealer for inspection.

Economical driving



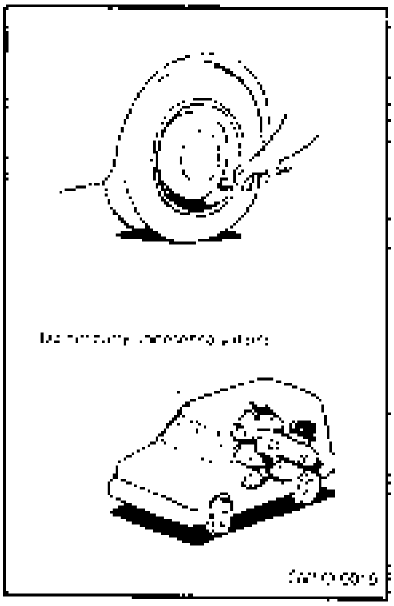
For economical driving, there are some technical requirements that have to be met. The prerequisite for low fuel consumption is a properly adjusted engine. In order to achieve longer life of the vehicle and the most economical operation, have the vehicle serviced by a GALLOPER dealer at regular intervals in accordance with the service schedules.

Fuel economy and generation of exhaust and noise are highly influenced by personal driving habits as well as the particular operating conditions. The following points should be observed in order to minimize wear of brakes, tyres and engine as well as to reduce environmental pollution.

(1) Starting
Avoid rapid acceleration and sudden starts. Such operation will result in more fuel consumption.

(2) Shifting
Shift only at an appropriate vehicle speed and engine rpm. Always use the highest gear possible. When driving at high speed even on good roads, fuel economy can [illegible] levels. The transfer shift lever should be set to "2H". In addition, for vehicles equipped with free-wheeling hubs, the free-wheeling hubs should be unlocked.

(3) City traffic
Frequent starting and stopping increases the average fuel consumption. Use roads with smooth traffic flow whenever possible. When driving on congested roads, avoid use of a low gear at high engine rpm.


Do not carry unnecessary articles

(4) Idling
The vehicle consumes fuel even during idling. Avoid extended idling whenever possible.

(5) Speed
The higher the vehicle speed, the more fuel consumed. Avoid driving at full speed. Even a slight release of the accelerator pedal will save a significant amount of fuel.

(6) Tyre inflation pressure
Check the tyre inflation pressure at regular intervals. Low tyre inflation pressures increase road resistance and fuel consumption. In addition, low tyre pressures adversely affect tyre wear and driving control.

(7) Load
Do not drive with unnecessary articles in the luggage compartment. Especially during city driving where frequent starting and stopping is necessary, the increased weight of the vehicle will greatly affect fuel consumption. Also avoid driving with unnecessary luggage, etc. on the roof, the increased air resistance will cause more fuel consumption.

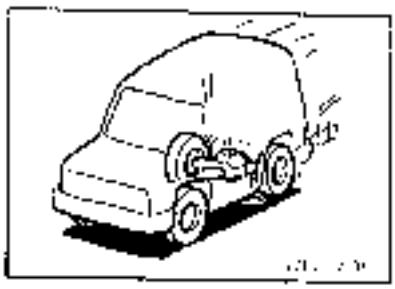
(8) Cold engine starting
Starting of a cold engine consumes more fuel. Unnecessary fuel consumption is also caused by keeping a hot engine running. After the engine is started, begin driving soon.

Fuel usage

(gasoline-powered vehicles)

Unleaded gasoline only must be used in ve
with catalytic converter

Limited-slip differential*



If the engine is started with one of the rear wheels is raised on a jack, the vehicle will move forward. Do not start the engine while the vehicle is raised on a jack.

If, during cross-wheel drive operation, tyre which is on the same side as the stuck tyre opposed wheel becomes stuck in mud, snow etc., it may be possible to free the vehicle by depressing the accelerator pedal. However, in this condition, the engine should not be run at high speeds as the limited-slip differential might not function.

CAUTION

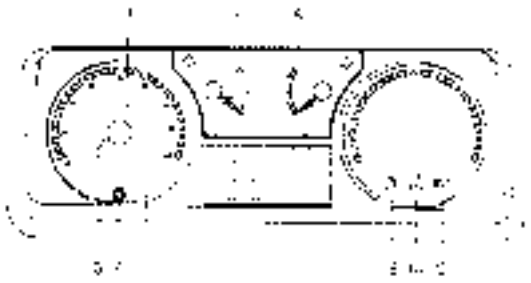
All vehicles equipped with limited-slip differential must use specific rear differential oil.

MEMO

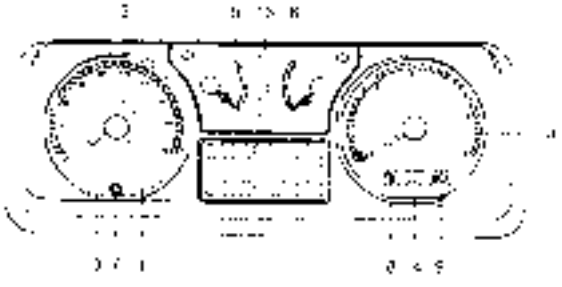
Instruments

Speedometer
Odometer
Tripmeter and reset button
Tachometer
Fuel gauge
Water temperature gauge
Thermometer*
Inclinometer*
Altimeter*
Indication and warning lamps

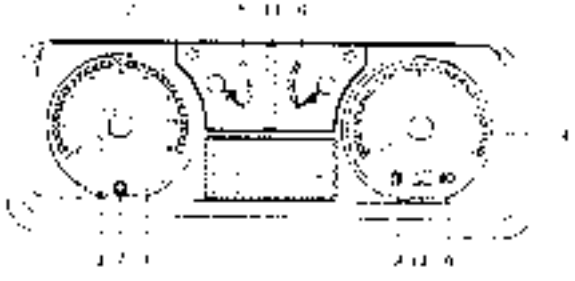
<TYPE 1>



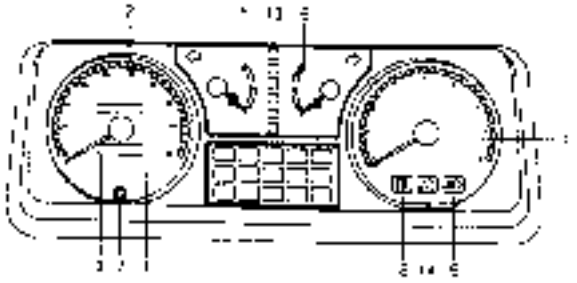
<TYPE 2>



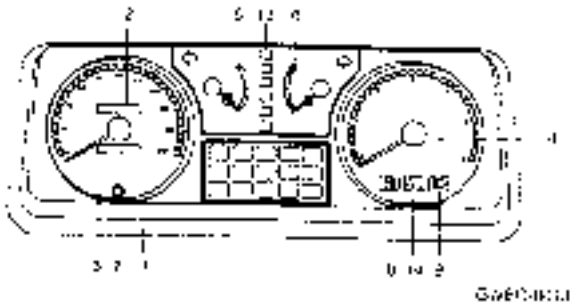
<TYPE 3>



<TYPE 4>

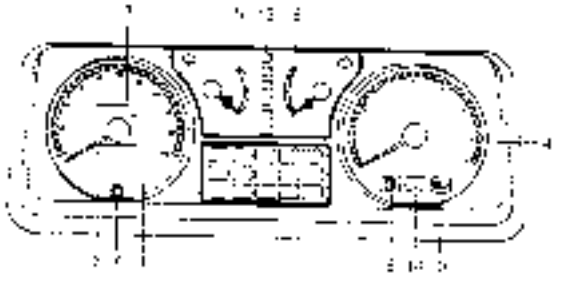


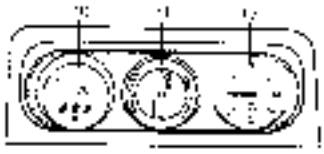
<TYPE S>



Without airbag

<TYPE E>



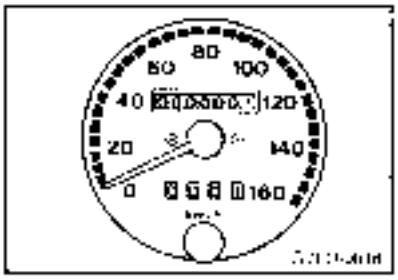


With airbag

1 Speedometer
2 Odometer
3 Trip meter
4 Tachometer
5 Fuel gauge
6 Water temperature gauge
7 Trip meter reset button

8 Low fuel warning lamp
9 High beam indicator lamp
10 Thermometer*
11 Inclinometer*
12 Altimeter*
13 A/T position indicator lamp*
14 Air bag warning lamp*

Speedometer



The speedometer indicates the vehicle's speed in kilometers per hour (km/h) or miles per hour (mph).

Odometer

The odometer indicates the total distance the vehicle has traveled.

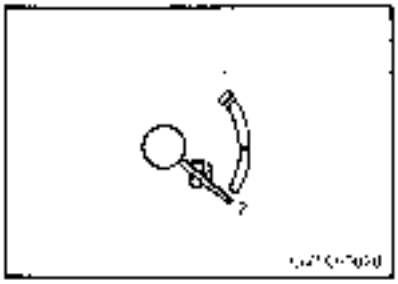
Tripmeter and reset button

The tripmeter indicates the distance traveled during a particular trip period. Press the reset button to return the tripmeter indication to zero.

Tachometer

The tachometer indicates the engine speed (r/min). The tachometer can help you obtain more economical driving and also warns you of excessive engine speeds. During travel, watch the tachometer to be sure that the engine speed indication does not rise to the red zone (range of the excessive engine rpm).

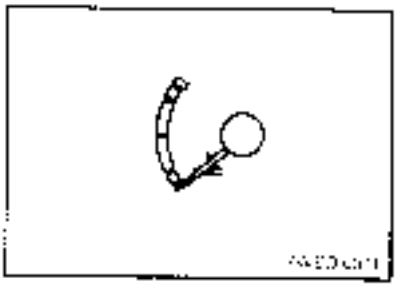
Fuel gauge



The fuel gauge indicates the fuel level in the fuel tank.

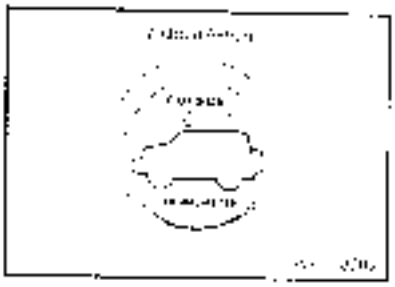
1 - Full
2 - Empty

Water temperature gauge



The water temperature gauge indicates the engine coolant temperature when the ignition switch is at the ON position. If the pointer needle enters the red zone while the engine is running, it indicates that the system is overheated. When driving, care must always be taken to maintain the water temperature

Thermometer*



The thermometer indicates the temperature outside the vehicle. The unit which is at °C or °F.

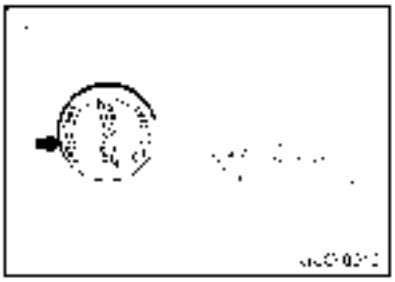
[illegible]

NOTE

1. The external temperature displayed may differ from the actual temperature on account of surrounding conditions, driving conditions, etc.
2. Temperature outside the vehicle that are below -30 C(-22 F) or over 70 C(158 F) will result in an error message being displayed (E-0 or E F, E C or E H).

[illegible]

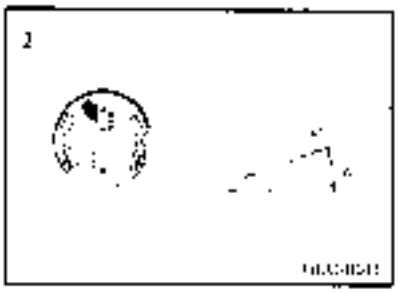
Inclinometer*



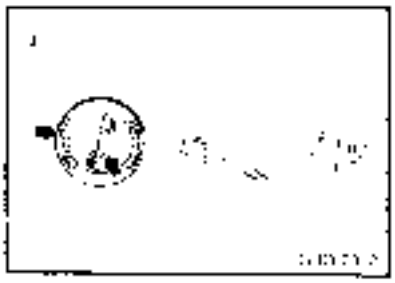
This meter indicates the inclination angle of the vehicle, both front-to-rear and side-to-side.

Examples

1 - Side-to-side inclination
(Right inclination at 15°)

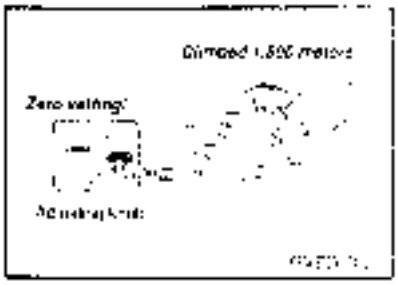


2 - Front-to-rear inclination
(Rear inclination at 20°)



3 - Front-to-rear and side-to-side inclination
(Front inclination at 10°)

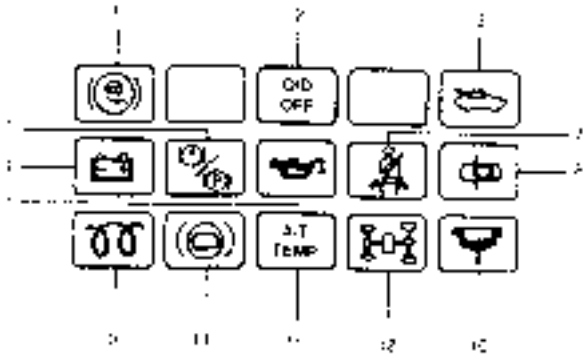
Altimeter*



Before driving the vehicle, set the pointer to 0 on the dial by turning the adjuster knob. The meter will indicate the height of the elevation.

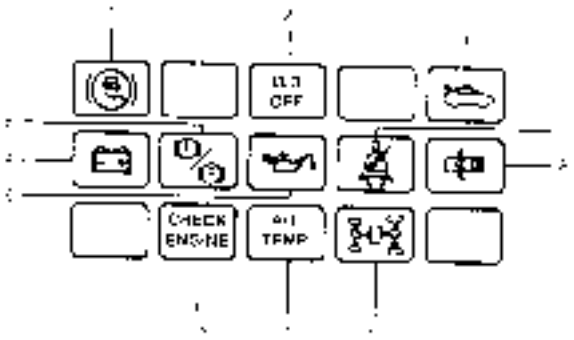
Indication and warning lamps

Diesel-powered vehicles



1 ABS warning lamp*
2 Combined oil indication lamp*
3 Back door ajar warning lamp (with built-in chime)
4 Charge warning lamp
5 Brake warning lamp
6 Oil pressure warning lamp
7 Seat belt warning lamp

Gasoline-powered vehicles



8 Door ajar warning lamp
9 Diesel preheat indication lamp
10 Fuel filler warning lamp
11 A/T oil temperature warning lamp*
12 4WD indication lamp
13 Self-diagnosis check lamp
14 Brake vacuum pressure warning lamp

Turn signal indication lamps

High-beam indicator lamp

4WD indication lamp

Self-diagnosis check lamp (gasoline-powered vehicle only)

CHECK ENGINE

Oil pressure warning lamp

Brake warning lamp

BRAKE

Charge warning lamp

This lamp illuminates when the ignition switch is set to the "ON" position and goes off after the engine has started. It lights up when the engine is running, there is a problem in the charging system. Check to see if the drive belt is broken, and then contact the nearest GALLOPER dealer.

Door ajar warning lamp

This lamp illuminates when the front or rear door is opened or incompletely closed.

Diesel preheat indicator lamp

The lamp illuminates amber when the ignition switch is placed at the "ON" position. As the glow plug becomes hot, the lamp turns off and the engine can be started.

Fuel filter warning lamp (diesel-powered vehicles only)

The lamp illuminates when the ignition switch is set to the "ON" position and goes off after the engine has started. It lights up while the engine is running if it indicates that water has accumulated inside the fuel filter. If this happens, remove the water from the fuel filter.

Low fuel warning lamp

This lamp illuminates when the fuel level in the fuel tank falls to a low level.

- Fuel remainder when warning lamp lights
  Long body type : approximately 15 liters
  Short body type : approximately 11 liters

If it illuminates, be sure to refuel soon.

Air bag warning lamp

Air bag warning lamp comes on and passes 6 times after the ignition key is turned to the "on" position or after the engine is started and then it will go out.

A/T (Automatic transmission) oil temperature warning lamp*

A/T
TEMP

The A/T oil temperature warning lamp comes on when the A/T oil temperature becomes abnormally high. When the lamp comes on, reduce the engine revolution and move the vehicle to a safe area. Then, set the selector lever to "P" position and idle the engine until the warning lamp goes off. When the warning lamp goes off, the vehicle can run as before. If the warning lamp does not go off, please have your vehicle inspected at a GALLOPER dealer.

Overdrive off indication lamp*

O/D
OFF

This lamp will light up when the overdrive switch is off.

ABS warning lamp*

<TYPE A> <TYPE B>

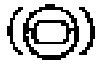
ABS

[illegible]

The ABS warning lamp should illuminate when the ignition switch is set to "ON", and should go off in approximately [illegible] second.

If the warning lamp is kept on, it indicates that the ABS is not functioning and that only the standard brake system is in operation. (Of course the standard brake system will still function normally.)

Brake vacuum pressure warning lamp (diesel-powered vehicles only)

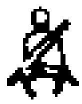


[illegible]

This lamp illuminates when the vacuum pressure in the brake booster falls to a low level. If the lamp should come on, it indicates that the effectiveness of the brakes has deteriorated and that the brake pedal should be depressed with more force than usual.

If the lamp remains lit and will not go out, stop the vehicle immediately and contact the nearest GALLOPER dealer.

Seat belt warning lamp



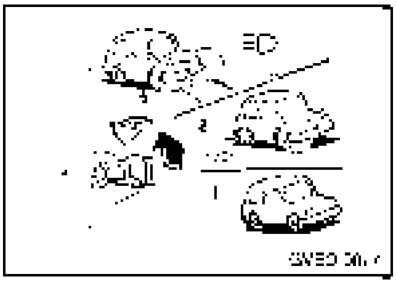
[illegible]

This lamp illuminates when the ignition is switched on, then goes out 6 second(s) later

Switches

Light switch
Turn/lane change signal switch
Dipper switch
Passing switch
Windscreen wiper and washer switch
Headlight washer switch*
Rear window wiper and washer switch
Rheostat (meter illumination control)
Hazard warning flasher switch
Rear window demister switch
Cargo lamp
Room lamp
Front fog lamp switch*
Rear fog lamp switch*
Headlight leveling device *

Light switch

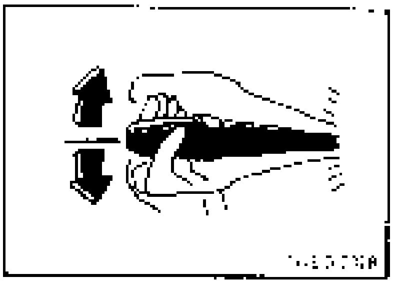


Rotate the switch to turn on the lights.

1 - Lights off
2 - Position, tail, license plate, and instrument panel lamps on
3 - Headlights on

(For Sweden, Iceland, Finland, Norway, Denmark)
When the ignition key is at the "ON" position and the light switch is set to the "OFF" position, the low beam of the headlights, tails, etc. will illuminate (Daytime Running Light).

Turn/lane change signal switch



The turn signal lamps flash when the switch is operated (with the ignition switch at the "ON" position).

Dipper switch

The beam changes from high to low (or low to high) each time the lever is pulled. While the high beam is on, the high beam indicator lamp will also illuminate.

Passing switch

The headlights will go on when the lever is pulled and will go off when it is released.

Windscreen wiper and washer switch

The windscreen wiper and washer switch can be operated by moving the switch lever with the ignition switch at the "ON" or "ACC" position.

Windscreen wiper

1 Off
2 Intermittent operation
3 Slow
4 Fast

On vehicles with the variable intermittent type the intermittent intervals are adjustable from 0 to 12 seconds by turning the wiper control knob.
Turn the knob toward you to extend the intermittent intervals.

Headlight washer switch* (If installed)

The headlight washer switch can be operated with the ignition switch at the ON position and the light switch at the on position. Push the button once and the washer fluid will be sprayed onto the headlights for about 0.5 seconds.

NOTE

Check the headlight washers periodically to confirm that the washer fluid is being sprayed properly onto the headlight lenses.

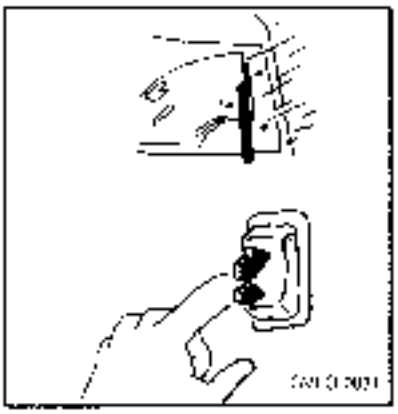
NOTE

(1) Before operating the wipers in cold weather, make sure that the wiper blades are not frozen to the windscreen. Attempting to operate the wipers while the blades are frozen to the windscreen could cause the motor to burn out.
(2) If the wipers stop during operation because of ice or some other obstruction on the windscreen, the wiper motor could burn out even if the wiper switch is turned off. In this case, promptly stop the vehicle, turn off the ignition, and clear the windscreen to allow proper wiper operation.
(3) Do not use the wipers when the windscreen is dry. Doing so could scratch the windscreen and wear the blades prematurely.

Windscreen washer

The washer fluid will be sprayed onto the windscreen.
For vehicles equipped with intermittent wipers, the wipers operate automatically while the washer fluid is being sprayed. Avoid using the washer continuously for more than 20 seconds.
Do not operate the washer when the fluid reservoir is empty.

Rear window wiper and washer switch



The rear window wiper and washer switch can be operated with the ignition switch at the "ON" position. Push the switch to operate the rear window wiper or spray the washer fluid.

NOTE

(1) Before operating the wiper in cold weather, check to be sure that the wiper blade is not frozen to the rear window. Attempting to operate the wiper while the blade is frozen to the rear window could cause the motor to burn out.

(2) If the wiper stops during operation because glare or some other reason, turn off the rear window. The wiper motor could burn out even if the wiper switch is turned off. In this case, promptly stop the vehicle, turn off the ignition and clean the rear window to allow proper wiper operation.

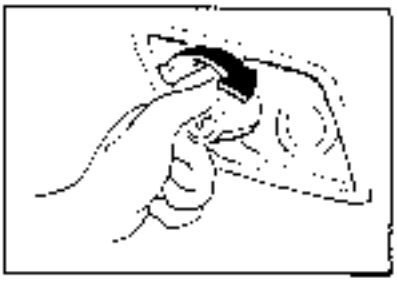
(3) Do not use the wiper when the rear window is dry, doing so could scratch the rear window and wear the blade prematurely.

Rear window washer

The washer will be sprayed onto the rear window while the switch is being pushed. Avoid using the washer continuously for more than 20 seconds.

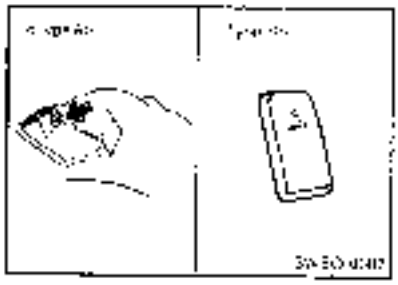
Do not operate the washer when the fluid reservoir is empty.

Rheostat (meter illumination control)



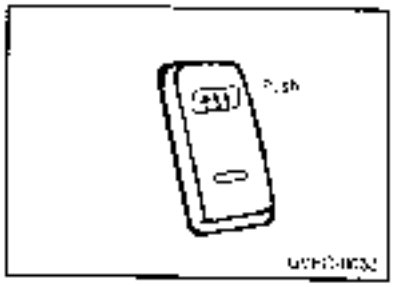
The rheostat can be adjusted while the tail switch is on. Turn the knob to adjust the meter illumination to the desired brightness.

Hazard warning flasher switch



The hazard warning lamps can always be operated, regardless of the position of the ignition key.
When this switch is operated, all turn signal lamps flash continuously, as do the turn signal indication lamps.
Limit the operation time to one hour or four, otherwise the battery will be discharged.

Rear window demister switch

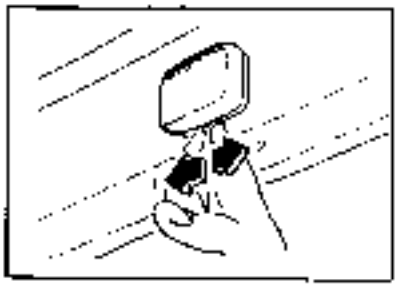


The rear window demister is turned on by pushing in on the switch.
The indication lamp will illuminate while the demister is on.
Push it again to turn it off.

NOTE

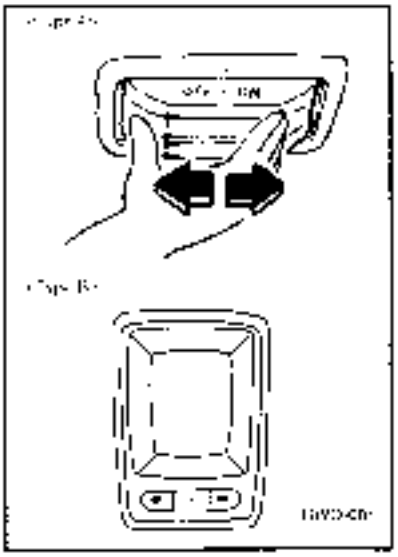
(1) The engine must be running for the rear window demister to operate. Be sure to turn the demister off immediately after the window is clear.
(2) When cleaning the inside of the rear window, use a soft cloth and wipe gently along the heater wires, being careful not to damage the wires.

Cargo lamp

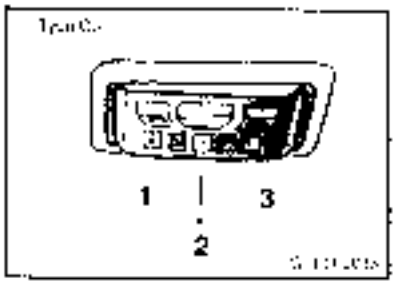


1 - The lamp goes out.
2 - The lamp illuminates.

Room lamp

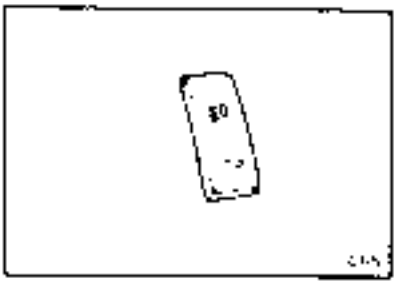


The room lamp can be operated by moving the lens itself to the left or right or pushing the button.



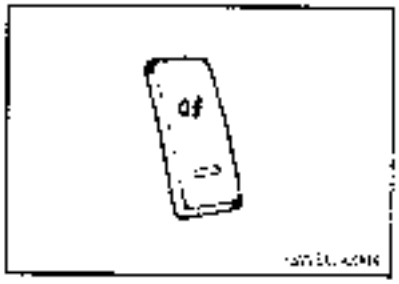
1. Push the button to turn on the map light (left side).
   Push it again to turn it off.
2. The light illuminates when a door is opened and goes out when it is closed.
3. Push the button to turn on the map light (right side).
   Push it again to turn it off.

Front fog lamp switch* (If installed)



The front fog lamp can be operated when the headlight is on.

Rear fog lamp switch * (If installed)

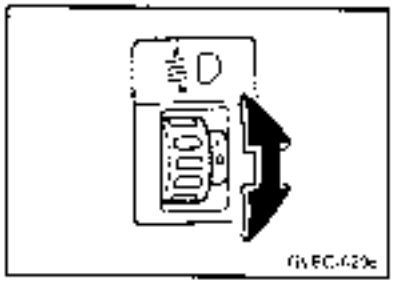


The rear fog lamp can operated when the headlight beam is on.

Push the switch to turn on the lamp.
Push it again to turn it off.

The indicator lamp in the switch will be on when rear fog lamp is on.

Headlight leveling device system * (If installed)



To adjust the headlight beam level according to the number of the passengers and the loading weight in the luggage area, turn the beam leveling switch.
The higher the number of the switch position, the lower the headlight beam level.
Always keep the headlight beam at the proper leveling position. Or headlights may cause other road users.
Listed below are some examples of proper switch settings.
For loading conditions other than those listed below, adjust the switch position so that the beam level may be the same as the condition equivalent according to the list.

Loading condition	SW position (SWB LWB-5seats, LWB 7seats) / LWB 9seats VAN
Driver only	0 or 0-0
Driver + front passenger	0 or 0 (except VAN)
Driver + front passenger + rear passenger or luggage load	1 or 1-0 (LWB 7seats, LWB 9seats)
Full passengers (including driver)	1 or 1-0 (except VAN)
Full passengers (including driver) + full trunk loading	2 or 2-0 (except VAN)
Driver + full trunk loading	2 or 2-0

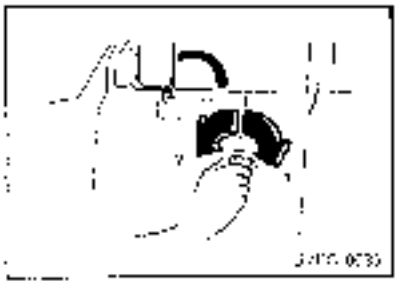
MEMO

Key-locking and unlocking

Doors
Electric door locks
Bonnet
Backdoor
Electric window control
Sliding window
Electronic immobilizer*

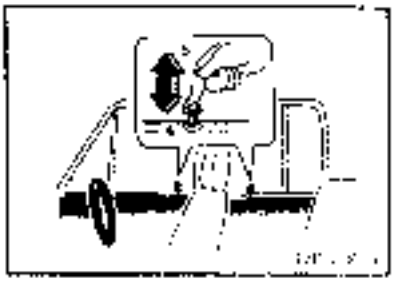
Doors

Operation from outside the vehicle



1 - Insert or remove the key
2 - Lock
3 - Unlock

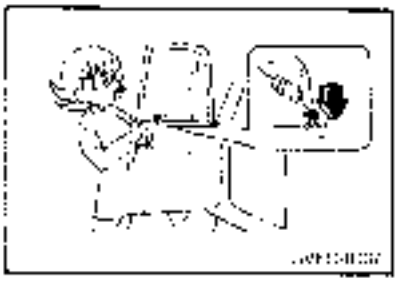
Operation from inside the vehicle



a - Lock
b - Unlock

Pull the inside handle upward to open the door.

To lock the front doors without a key



Set the inside lock button to the locked position. Be careful not to lock the doors while the key is inside the vehicle.

To lock the rear doors

Set the inside lock button to the locked position and close the door.

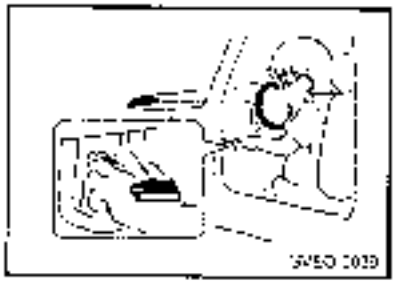
Electric door locks

By using either the inside lock button or the key to lock or unlock the front driver's door, all of the doors can be simultaneously locked or unlocked.

1 - Lock
2 - Unlock

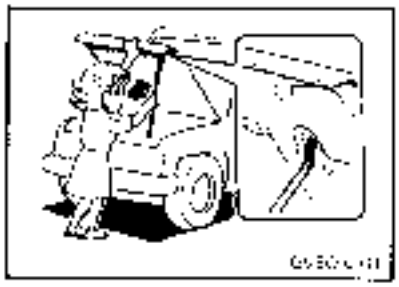
Bonnet

To open



Pull the release lever towards you to unlock the bonnet.

Raise the bonnet while pressing the safety lock.



Support the bonnet by inserting the support bar in its slot.

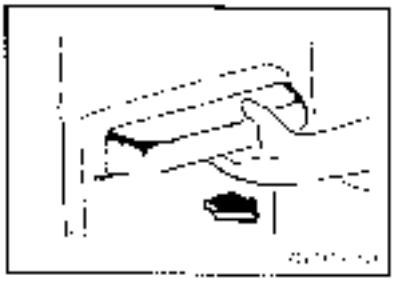
To close

Unhook the support bar. Then lower and close the bonnet. Make sure the bonnet is firmly locked in place.

Backdoor

Operation from outside the vehicle

1. Insert or remove the key
2. Lock
3. Unlock



Pull the outside handle toward you to open the backdoor.

CAUTION

If the back door is opened at night, the tail lamp will be concealed by the door, so take some measure to assure that the vehicle can be seen by vehicles approaching from behind.

Operation from inside the vehicle

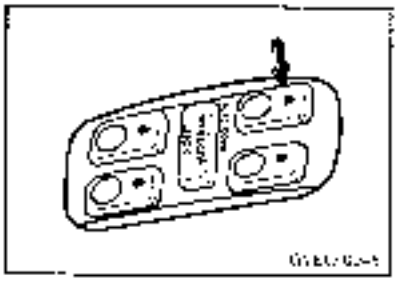
4. Lock
5. Unlock

Pull the inside handle toward you to open the back door.

To lock the backdoor without a key

Set the key to the unlocked position, pull open the backdoor.
Be careful not to lock the backdoor when the key is inside the vehicle.

Electric window control



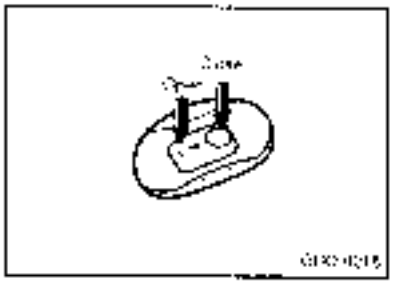
The electric window control system is operated with the ignition switch in the ON position.

Driver's switches

The driver's switches can be used to operate all door windows. A window can be opened or closed by pressing the corresponding switch.

Passenger's switches

The passenger's switches can be used to operate the corresponding passenger's door windows.



CAUTION

(1) Be careful that head or hands are not trapped by a closing window.

(2) To prevent injury, do not allow children to play with window control switches. When children are in the vehicle, make sure the window control lock switch is in the locked position.

(3) If a child (or other person who might not be capable of safe operation) of the electrical window switch(es) is to be left in the vehicle alone, always be sure to turn off the ignition and remove the key.

(4) Never try to operate a driver's switch and a passenger's switch in opposing directions at the same time; the window will stop, and cannot then be opened or closed.

Sliding window

To open

Slide the window glass rearward while pressing the lock knob.

To close

Slide the window glass to the way front and automatically lock.

Electronic Immobilizer * (If installed)

The electronic immobilizer system is an anti-theft device designed to prevent and deter automobile theft. It means that the engine can only be started with the car's own keys. It should not be necessary for the key to make the lock mechanically. A special electronic component is integrated into the key.

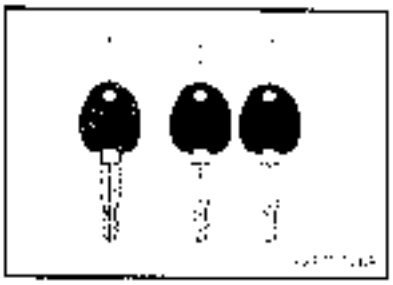
NOTE

The electronic components integrated into the key could become damaged if treated violently and be rendered useless. It will then not be possible to start the engine with a key damaged in this way.

Obtaining a new key :

Replacement keys are only available from an authorized GALLOPER dealer, which is obliged to check whether every person ordering such a key is authorized to do so.
An authorized GALLOPER dealer is also able to block individual keys electronically (e.g. if lost, and restore them to use again. The engine cannot be started with a key that has been blocked.

Keys* (If electronic immobilizer installed)



1 I.D. key
This key must be used first to register the ID code in ICM. This key is not intended for everyday use.
2 Master key
This key is for general use. It will turn all locks on your vehicle.

CAUTION

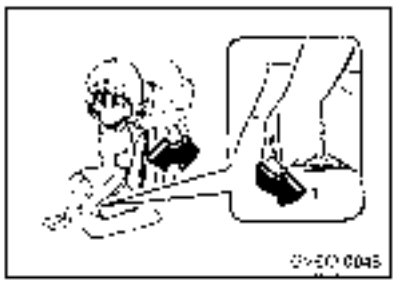
Don't lose your ID key or forget the password. Always keep your ID key at the designated place where you know and record your password.
If you don't have both of password and ID key, you can not get additional keys any more.

ICM : Immobilizer Control Module

Interior equipment

Front seats
Second seat
Third seats
Make second and third seats into bed
Head restraints
Heated seats*
Seat belts
Supplemental restraint (airbag) system "SRS" *
Adjustment of steering wheel height
Sun visors
Cigarette lighter
Ashtrays
Accessory boxes
Digital clock

Luggage securing hooks



Front seats

Adjust the seats by operating the levers as indicated by the arrows to allow the seats to the desired position.

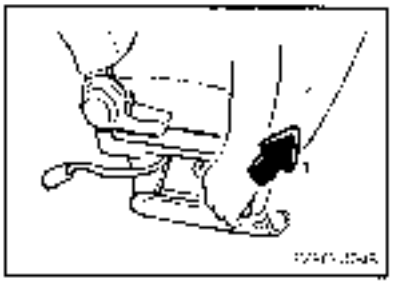
CAUTION

Never adjust the driver's seat while the vehicle is in motion.

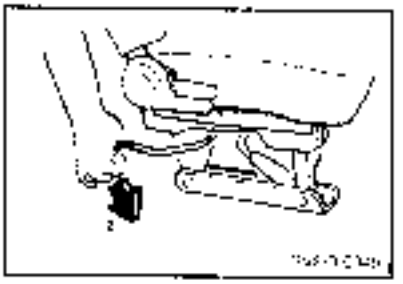
1 - Adjustment forward or backward

2 - Adjustment of seatback angle

To get in and out of the rear seat (Short-wheel-based models)



1 - To get in



2 - To get out

CAUTION

When returning the seatback to its original position, be careful not to get hands, legs, etc., caught in the seat.

Second seat

Adjustment of seat

Adjust the seat by operating the handle in the direction of arrows to move the seat to desired position.

1 – Adjustment of seatback angle

To get in and out of third seat

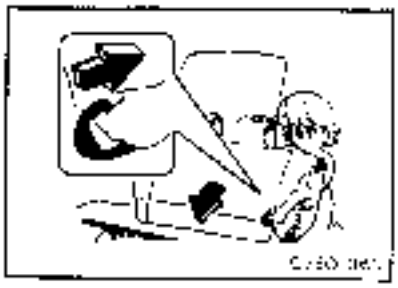
1 – To get in
2 – To get out

Fold down the side seatback by pulling the knob for the convenience of getting in or out of the third seat.

CAUTION

When passengers get in and out, they should watch their step carefully to avoid injuring themselves on the rear seat frame, springs, and other parts.

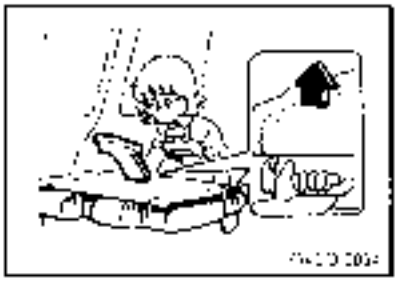
Folding the seat



Lower the head restraints all the way, fold the seatback downward and forward by operating the knob.

NOTE

Before folding the seatback, be sure to move the seat to the rearmost position.

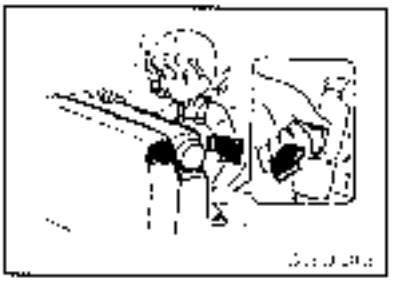


Lift up the handle for tilting the seat and fold the entire seat upward and forward until it locks.

CAUTION

Do not fold down the second seat when the third seat is used, because the projections on the backside of the second seat may be injurious.

Unfolding the seat



While pulling the lever on the cushion of the seat towards you, fold the seat down, and then raise the seatback.

Third seats

Adjustment of seat

Adjust the seats by operating the handles to move the seats to desired positions.

Folding the seats

1. Press the lever and fold the seatback forward and down until it locks.

2. While pulling up on the seat, fold the entire seat upward.

3. Take the hook (A) and hook the belt (B) onto the assist handle (C). Lower the belt buckle (D) to tighten the belt and secure the seat.

Unfolding the seats

1. Raise the belt buckle to loosen the belt.
2. Unhook the belt from the assist strap.
3. Unfold the seat by reversing the procedure used to fold it.

CAUTION

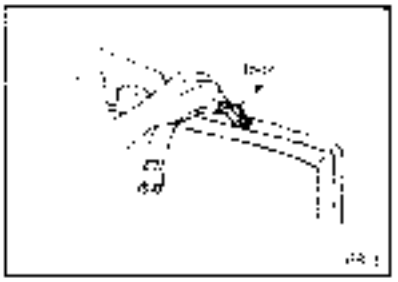
When unfolding the seats, be sure to unfold the leg down far enough.

Third seats (Side facing seats)

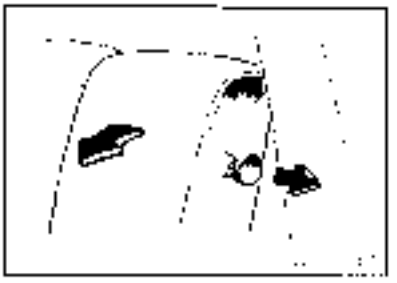
Folding the seats

Pull the knob as shown, and raise the seat cushion.

Fold the leg underneath.



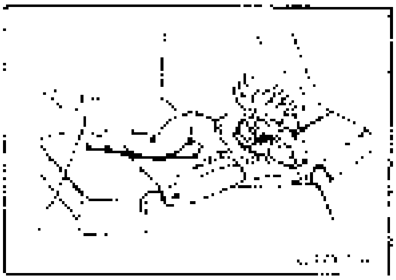
Make second and third seats into bed



CAUTION

Folding down the seatback all the way when the side seatback is still secured to it could damage the side seatback.

To return the seat to the [illegible] position [illegible] press the lever [illegible] backward until it is securely locked.
Do not operate lever [illegible] when moving [illegible] the seat [illegible] position.
[illegible] back.



CAUTION

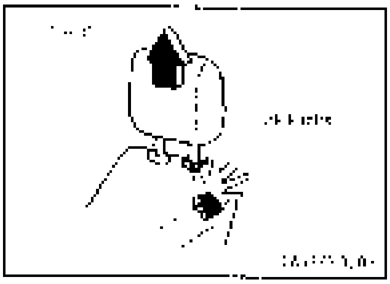
Do not walk around on top of the seats after they have been made into a bed. If you make a false step and your foot misses the seat, you could be injured. Always move around carefully and step only in the middle of the seats.
For technical reasons, the vehicle should not be driven with bed.

Head restraints

Adjustment of the head restraints

Adjust the head restraints height so that the [illegible] of the restraints is as close as possible to the back of the head [illegible] the chance of injury in the event of [illegible].

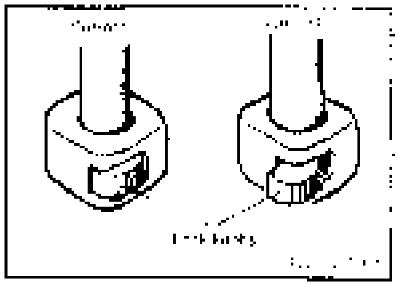
Removal of the head restraints



Front seats

[illegible]

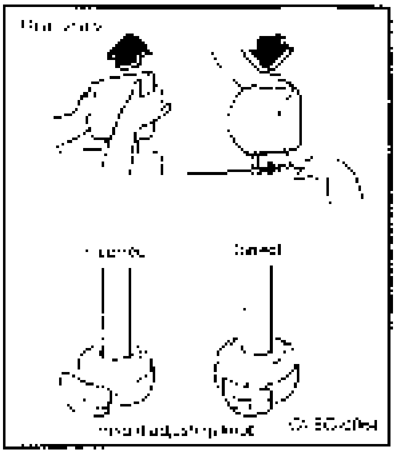
Confirm that the lock knobs are [illegible] shown in the illustration, and also pull [illegible] the head restraints to confirm that they [illegible] not come out of the seatback.



CAUTION

It is dangerous to drive without or badly adjusted head restraints installed; always have them correctly mounted when using the vehicle.

Rear seats



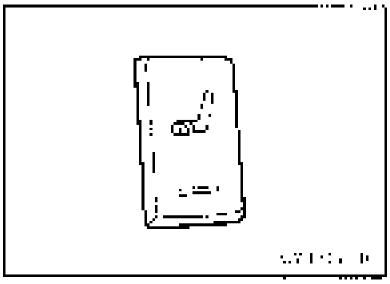
To remove the head restraints, press the height adjusting knobs in the direction indicated by the arrows and pull up on the restraints.
To reinstall the head restraints, first confirm that they are facing the correct direction and then insert them into the seatback and push down until they lock.
Confirm that the height adjusting knobs are correctly as shown in the illustration and also pull on the head restraints to confirm that they do not come out of the seatback.

CAUTION

It is dangerous to drive without or badly adjusted head restraints installed; always have them correctly mounted when using the vehicle.

Heated seats*

The heated seats can be operated with the ignition switch in the ON position.



Seat belts

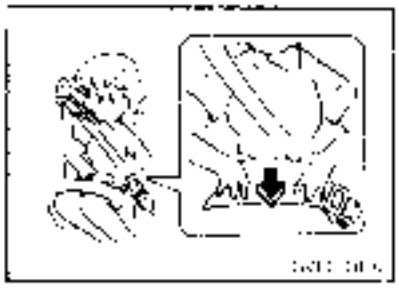
To protect you and your passengers in the event of an accident, it is most important that the seat belts be worn correctly when you drive.

3-point seat belts

It is not necessary to adjust the belt length. The belt becomes looser and tighter as the wearer moves, but it locks automatically to hold the wearer if a strong impact occurs.

To fasten the belt

Insert the plate into the buckle until a "click" is heard.



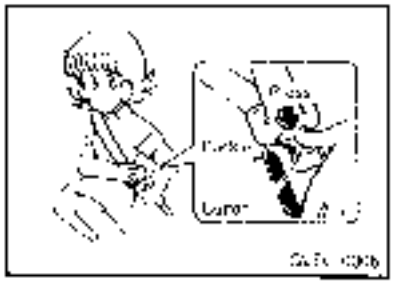
CAUTION

(1) Always position the lap portion of belt as low on the hipbone as possible

(2) The seat belts must not be twisted when worn

Adjust any looseness by pulling the belt slightly

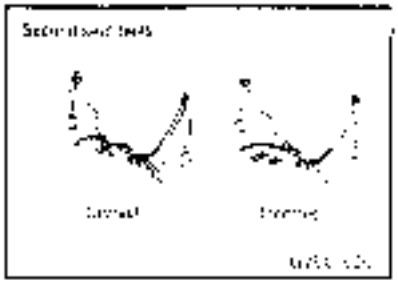
To unfasten the belt



Press the release button while holding the plate

NOTE

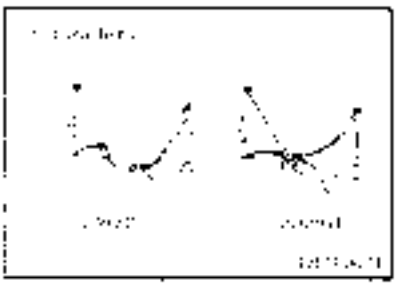
The belt will rewind automatically. For the ... rewind gradually.



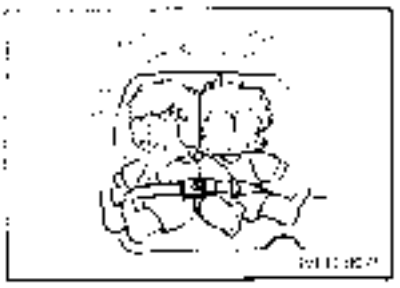
CAUTION

(1) When the tongue plate is connected to the buckle, do not mix up the left, right or center the buckle.
Use the proper buckle as shown in the figure.

(2) Do not fold down the side seatback of the second seat when the second seat belt is used, because the seat belt will be interfered with the side seatback and will not operate properly.



Handling seat belts



CAUTION

- One seat belt should be used by only one person. Doing otherwise can be dangerous.

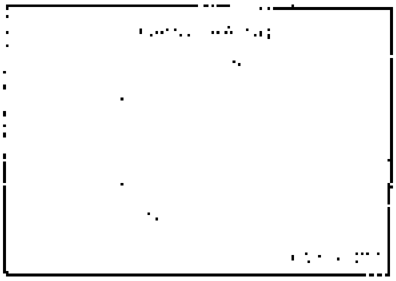
2. When driving with children, they should be seated in the rear seat, and wear lap belts. For an infant, a child safety seat should be used.
   The regulations concerning driving with children in the front seat may differ from country to country. It is recommended that you obey the pertinent regulations.
3. Pregnant woman should use 3-point type seat belt whenever possible. The lap belt should be worn as low as the hips, but not across the waist.

Seat belts inspection

- [illegible]
- [illegible]
- [illegible]

Supplemental restraint (airbag) system "SRS" *(if installed)

<type A>



Your vehicle is equipped with a Supplemental Restraint Air Bag System.
[illegible]

[illegible]

NOTE

[illegible]

WARNING

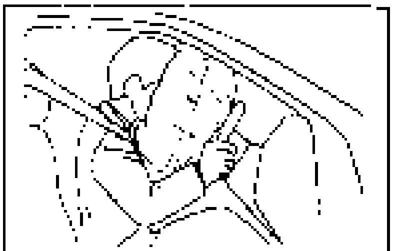
(1) The SRS is designed to work with, and be supplemental to, the driver's three point seat belt system and is not a substitute for it. Therefore your seat belts must be worn at all times while the vehicle is in motion. In addition, the airbag deploys only in certain frontal impact conditions severe enough to likely cause significant injury to the vehicle occupants.

(2) The SRS is designed to deploy the airbag only when an impact is sufficiently severe and will not deploy in side, rear or rollover impacts. Additionally, the airbag will only deploy once. Thus, seat belts must be worn at all times.

(3) For maximum safety protection in all types of crashes, all occupants including the driver should always wear their seat belts whether or not an airbag is also provided at their seating position to minimize the risk of severe injury or death in the event of a crash. Do not sit or lean unnecessarily close to the airbag while the vehicle is in motion.

(4) The SRS airbag system must deploy very rapidly to provide protection in a crash. If an occupant is out of position because of not wearing seat belt, the airbag may forcefully contact the occupant causing serious or fatal injuries.

SRS Component and Functions'



The SRS consists of the following components:

- Driver's side Airbag Module
- SRS Service Reminder Indicator (SRI)
- SRS Control Unit (SRSCU)

The SRSCU continually monitors all elements while the ignition is "ON" to determine if a frontal or near frontal impact is severe enough to require airbag deployment.

The SRS service reminder indicator (SRI) on the instrument panel will blink 6 times after the ignition key is turned to the "ON" position or after the engine is started, and then the SRI should go out.

The airbag module is located in the center of the steering wheel.
When the SRSCU detects a considerable impact to the front of the vehicle, it will automatically deploy the airbag.

Upon deployment, tear seams molded directly into the pad covers will separate under pressure from the expansion of the airbag. Further opening of the covers then allows full inflation of the airbag.
A fully inflated airbag, in combination with a properly worn seat belt, slows the driver's forward motion, thus reducing the risk of head or chest injury.
After complete inflation, the airbag immediately starts deflating, enabling the driver to maintain forward visibility.

SRS care

The service-work of the SRS components are permitted only an authorized GALLOPER dealer and so there are no parts you can safely service by yourself. The entire SRS system must be inspected by an authorized GALLOPER dealer 10 years after the date that the vehicle was manufactured.

Any work on the SRS system, such as removing, installing, repairing, or any work on the steering wheel must be performed by an authorized GALLOPER dealer. Improper handling of the SRS system may result in serious personal injury.

WARNING

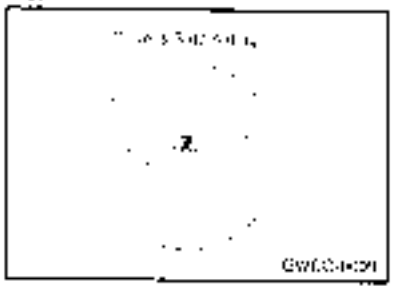
(1) Modification to SRS components or wiring, including the addition of any kind of badges to the pad covers or modifications to the body structure, can adversely affect SRS performance and lead to possible injury.
(2) For cleaning the airbag pad covers, use only a soft, dry cloth or one which has been moistened with plain water. Solvents or cleaners could adversely affect the airbag covers and proper deployment of the system.
(3) No objects should be placed over or near the airbag module on the steering wheel, because any such object could cause harm if the vehicle is in a crash severe enough to cause the airbag to inflate.
(4) If the airbag inflate, they must be replaced by an authorized GALLOPEA dealer.
(5) If components of the airbag system must be discarded, or if the vehicle must be scrapped, certain safety precautions must be observed. Your GALLOPER dealer knows these precautions and can give you the necessary information. Failure to follow

these precautions and procedures could result in severe risk of personal injury.

(6) If you sell your vehicle, be sure to inform the new owner of these important points and make certain that this manual is transferred to the new owner.

(7) If your car was flooded and has soaked carpeting or water on flooring, you shouldn't try to start engine; have the car towed to authorized GALLOPER dealer.

<type B>



Your vehicle is equipped with a Supplemental Restraint (Airbag) System.
The indications of the system's presence are the letters "SRS AIR" embossed on the airbag pad cover in the steering wheel.

The SRS consists of airbag installed under the pad cover in the center of the steering wheel. The purpose of the SRS is to provide the vehicle driver with additional restraint over that offered by the seat-belt system alone in case of a frontal impact of sufficient severity.

NOTE

Be sure to read information about the SRS on the label provided on the backside of the sun visor.

WARNING

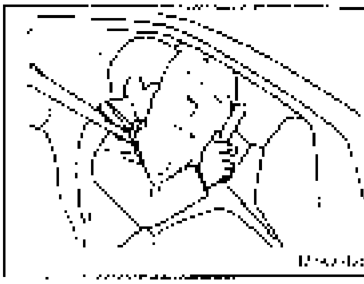
(1) The SRS is designed to work with, and be supplemental to, the driver's three point seat belt system and is not a substitute for it. Therefore, your seat belts must be worn at all times while the vehicle is in motion. In addition, the airbag deploys only in certain frontal impact conditions severe enough to likely cause significant injury to the vehicle occupants.

(2) The SRS is designed to deploy the airbag only when an impact is sufficiently severe and will not deploy in side, rear or rollover impacts. Additionally, the airbag will only deploy once. Thus, seat belts must be worn at all times.

(3) For maximum safety protection in all types of crashes, all occupants including the driver should always wear their seat belts whether or not an airbag is also provided at their seating position to minimize the risk of severe injury or death in the event of a crash. Do not sit or lean unnecessarily close to the airbag while the vehicle is in motion.

(4) The SRS airbag system must deploy very rapidly to provide protection in a crash. If an occupant is out of position because of not wearing seat belt, the airbag may forcefully contact the occupant causing serious or fatal injuries.

SRS Component and Functions*



The SRS consists of the following components:

- Driver's side Airbag Module
- SRS Service Reminder Indicator (SRI)
- SRS Control Unit (SRSCU)

The airbag module is located in the center of the steering wheel.
When the SRSCU detects a sufficiently strong impact to the front of the vehicle, it will automatically deploy the airbag.

Upon deployment, tear seams molded into the pad covers will separate under pressure from the expansion of the airbag. Further opening of the covers then allows full inflation of the airbag.
A fully inflated airbag, in combination with a properly worn seat belt, slows the driver's forward motion, thus reducing the risk of head or chest injury.
After complete inflation, the airbag immediately starts deflating, enabling the driver to maintain forward visibility.

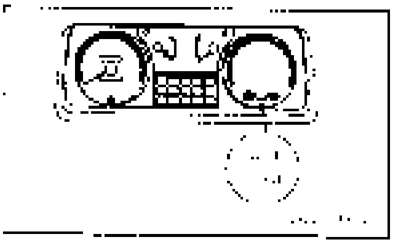
WARNING

(1) Never to try to fix the object (ornament materials, stickers etc.) to the cushioned covering in the steering wheel. It's possible thereby to hurt the driver when the airbag is pumped up.

(2) Never to try to fix the object to the windscreen. It's possible that the object could hinder the remove of airbag or be thrown towards passengers and they could be hurted thereby so seriously.

(3) Some components of airbag system get heated by the pumping-up of airbag system. Don't touch therefore these components after the pumping-up.

SRS warning lamp*



The SRS warning lamp on the instrument panel turns on/blinks for about 6 seconds after the ignition key is turned to the "ON" position; after that, if it goes out, it means the SRS warning lamp is ok.

WARNING

The following cases means that there is problem with the system. Immediately have it checked by an authorized GALLOPER dealer.

- **When the warning lamp stays on after turning the ignition switch on.**
- **When the warning lamp goes on while driving.**
- **When the warning lamp does not light up after the ignition key is turned to the "ON" position.**

SRS care

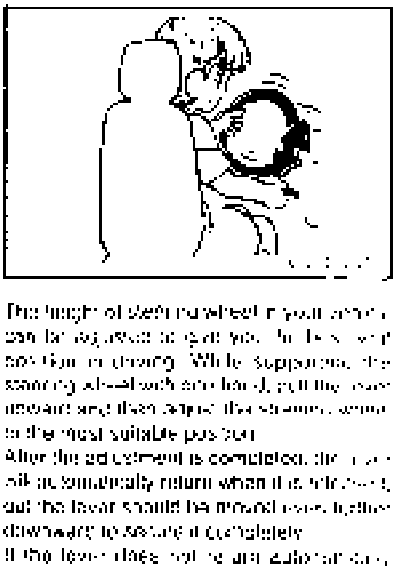
The service work on the SRS components [illegible] GALLOPER [illegible] you can [illegible] by yourself. The [illegible] SRS system must be inspected [illegible] 10 years [illegible] the date that the vehicle was manufactured.

Any work on the SRS system, such as [illegible] installing, repairing or any work on the steering wheel, must be done by an authorized GALLOPER dealer. Improper handling of the SRS system may result in serious personal injury.

WARNING

(1) Modification to SRS components or wiring, including the addition of any kind of badges to the pad covers or modifications to the body structure, can adversely affect SRS performance and lead to possible injury.
(2) For cleaning the airbag pad covers, use only a soft, dry cloth or one which has been moistened with plain water. Solvents or cleaners could adversely affect the airbag covers and proper deployment of the system.
(3) No objects should be placed over or near the airbag modules on the steering wheel, because any such object could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate.
(4) If the air bag inflate, they must be replaced by an authorized GALLOPER dealer.
(5) If components of the air bag system must be discarded, or if the vehicle must be scrapped, certain safety precautions must be observed. your GALLOPER dealer knows these precautions and can give you the necessary information. Failure to follow these precautions and procedures could increase the risk of personal injury.
(6) If you sell your vehicle, be sure to inform the new owner of these important points and make certain the this manual is transferred to the new owner.
(7) If your vehicle has to be broken, you should bring it to an authorized GALLOPER dealer in order to deactivate the SRS.
(8) If your car was flooded and has soaked carpeting or water on flooring, you shouldn't try to start engine. Have the car towed to authorized GALLOPER dealer.

Adjustment of steering wheel height

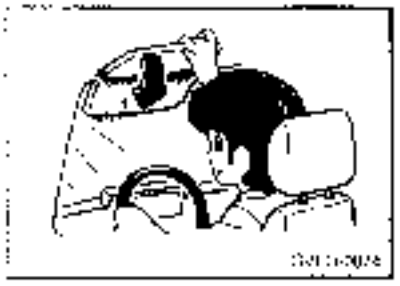


The height of steering wheel in your vehicle can be adjusted to give you the [illegible] position in driving. While supporting the steering wheel with one hand, pull the lever upward and then adjust the steering wheel to the most suitable position.
After the adjustment is completed, the lever will automatically return when it is released, but the lever should be moved even further downward to secure it completely.
If the lever does not return automatically when released, or stops part way, it can be made to return by working the steering wheel up and down.

WARNING

Do not adjust the height of steering wheel while you are driving the vehicle.

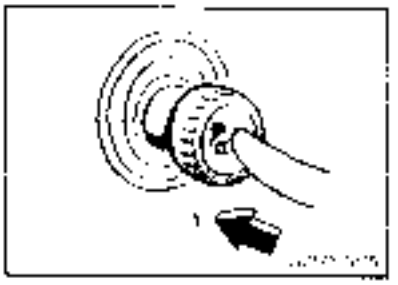
Sun visors



1 To eliminate front glare

2 To eliminate side glare

Cigarette lighter



The cigarette lighter can be used while the ignition switch is in either ON or ACC.

1 Push all the way in.

The lighter will automatically return to its original position with a "click" when ready for use.

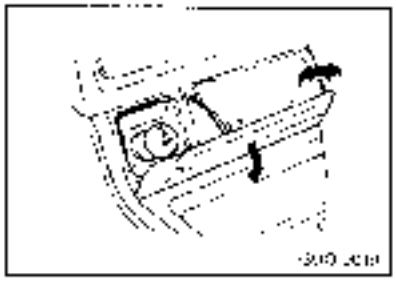
CAUTION

1 Do not touch heating element or lighter housing. Hold at the knob only.

2 Something is wrong with the cigarette lighter if it does not pop back out within approximately 30 seconds of being pushed in. Leaving the cigarette lighter pushed in for an extended period could cause a fire. If it does not pop out by itself, pull it out and have the problem corrected at a GALLOPER dealer.

Ashtrays

Front ashtray

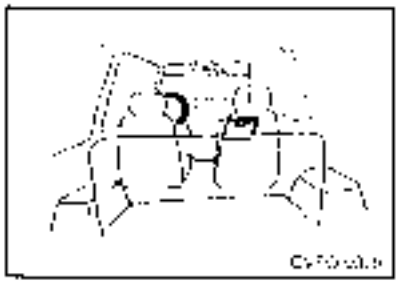


The ashtray is located on the front centre console.
The front ashtray may be opened by pulling out by its top edge.
To close the ashtray is empty or clean it push it all the way in.

Rear ashtrays

Pull the ashtray downward to open. To remove the ashtray, pull it out while pressing the rubber.

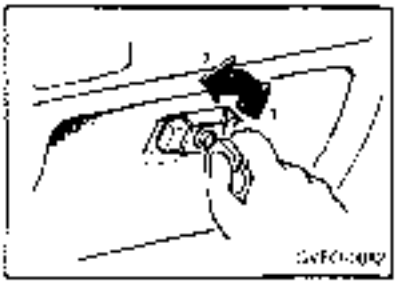
Accessory boxes



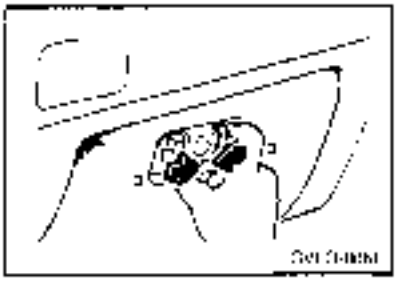
Various small articles can be kept in here.

1 Glovebox

Glove box

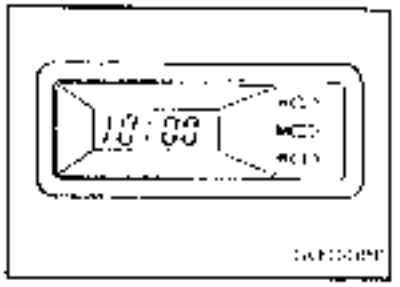


1 - To lock
2 - To unlock



3 - To open, push both buttons

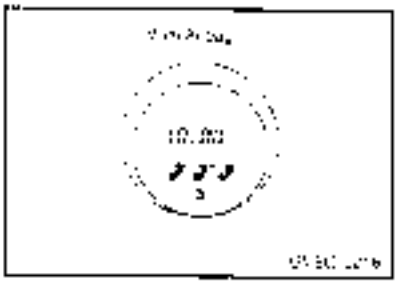
Digital clock



How each button works:
H - To adjust the hour, push this button
M - To adjust minutes, push this button
R - To clear any minutes display in order to set the correct time, push this button

Example

10.30 - 11.29	changes to 11.00
11.30 - 12.29	changes to 12.00

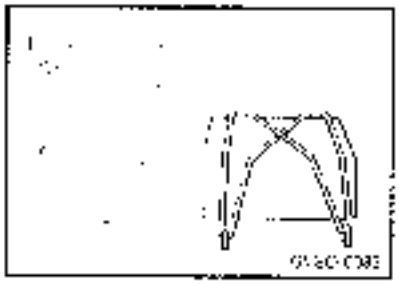


T - To change from the 12 hour to clock, push this button
*Vehicles with airbag system

NOTE

If the battery cables are disconnected during repairs or for any other reason, reset the clock to the correct time after the cables are reconnected.

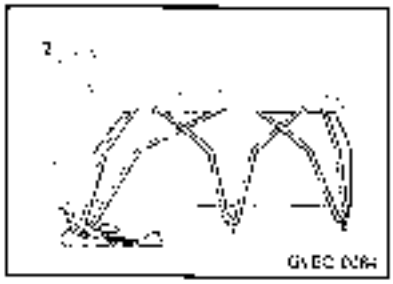
Luggage securing hooks



1 ...

There are four hooks on the ... of the luggage compartment for use in securing luggage.

... For small items.



2 ...

... For large items.
Fold down the rear seat. The luggage can be secured more firmly if the seat backrest holes are also used.

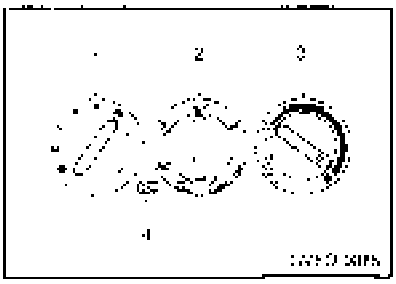
MEMO

For pleasant driving

Heating and ventilation
Air conditioning operation *
Rear air conditioner *
Rear heater *
Ventilators
Radio & Cassette tape player

HEATING AND VENTILATION

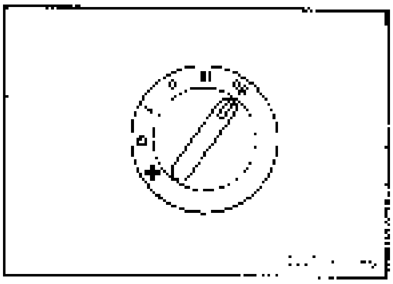
Rotary Type



This heater has four controls for the heating and cooling system.
They are:

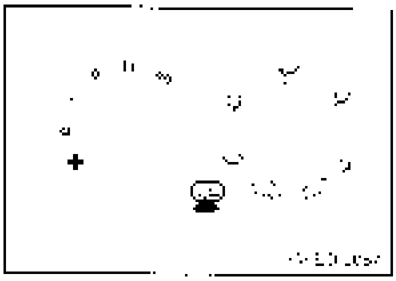
1 Fan speed control
2 Air flow control
3 Temperature control
4 Air intake control

FAN SPEED CONTROL (BLOWER CONTROL)



This is used for turning the blower fan on and off, to select the fan speed.
The blower fan speed, and therefore the volume of air delivered from the system, may be controlled manually by moving the lever control between the "I" and "IIII" position.

AIR INTAKE CONTROL



This is used to select fresh outside air or recirculation of inside air.

Fresh

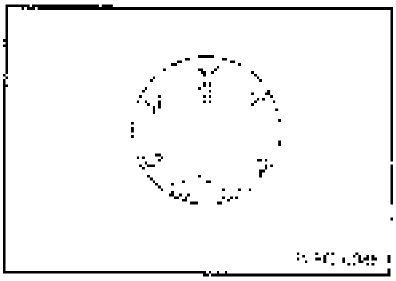
Recirculation

With the fresh air mode selected, air enters the vehicle from outside and is heated or cooled according to the other functions selected.
With the recirculation mode selected, air from within the passenger compartment is drawn through the heating system and heated or cooled according to the other functions selected.

NOTE

It should be noted that prolonged operation of the heater in "Recirculation" mode will give rise to misting of the windshield and side windows and the air within the passenger compartment becoming stale. In addition, prolonged use of the air conditioner with the "Recirculation" mode selected may result in the air within the passenger compartment becoming excessively dry.

AIR FLOW CONTROL



This is used to direct the flow of air. Air can be directed to the floor, dashboard outlets, or windshield. Five symbols are used to represent Face, Bi-Level, Floor, Floor-Defrost and Defrost air position.

Face-Level

Selecting the "Face" mode will cause air to be discharged through the face level vents.

Bi-Level

Air is discharged through the face vents and the floor vents. This makes it possible to have cooler air from the dashboard vents and warmer air from the floor outlets at the same time.

Floor-Level

Air is discharged through the floor vents.

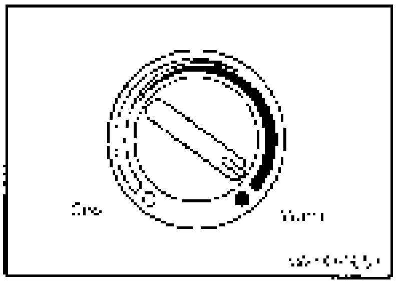
Floor-Defrost Level

Air is discharged through the windshield defrost vents and the floor vents.

Defrost-Level

Air is discharged through the windshield defrost vents.

TEMPERATURE CONTROL



This is used to turn the heater on and off and to select the degree of heating desired.

HEATING CONTROLS

For normal heater operation, move the air intake control to the "Fresh" position and the air flow control to "Floor".
For faster heating, the air intake control should be in the "Recirculation".
If the windows fog up, move the air flow control to the "Def (defroster)" position and the air intake control to "Fresh".
For maximum heat, move the temperature control to "Warm".

BI-LEVEL HEATING

Your vehicle is equipped with bi-level heating controls. This makes it possible to have cooler air from the dashboard vents and warmer air from the floor outlets at the same time. To use this feature:

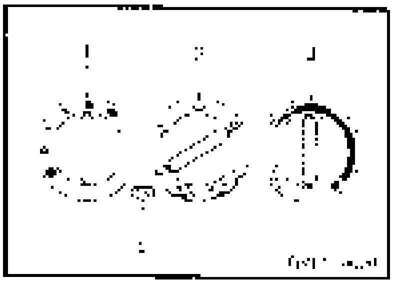
- o Set the air intake control to "Fresh".
- o Set the air flow control at the "Bi-Level" position.
- o Set the temperature control between "Cool" and "Warm".

VENTILATION

To operate the ventilation system:

- o Set the air intake control on "Fresh".
- o To direct all intake air to the dashboard vents, set the air flow control to "Face".
- o Adjust the fan speed control to the desired speed.
- o Set the temperature control between "Cool" and "Warm".

DEFROSTING/DEFOGGING



To use the heating/ventilation system to defrost or defog the windshield:

- o Set the air intake control (1) to the "Fresh" position.
- o Set the air distribution control (2) to the "Defrost" position.
- o Set the temperature control (3) to a comfortably warm position.
- o Set the fan speed control (4) to position "III" or "IV".
- o If vehicle is so equipped, turn on the A/C for increased defogging action.

NOTE

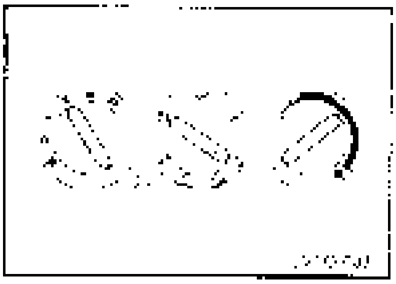
In high humidity areas the A/C can be used with the air intake in the "Recirculation" position for increased defogging action.

Operation Tips

- o To keep dust or unpleasant fumes from entering the car through the ventilation system, temporarily set the air intake control at "Recirculation". Be sure to return the control to "Fresh" when the irritation has passed to keep fresh air in the vehicle.
  This will help keep the driver alert and comfortable.
- o Air for the heating/cooling system is drawn in through the grilles just ahead of the windshield. Care should be taken that these are not blocked by leaves, snow, ice or other obstructions.

AIR CONDITIONING OPERATION (If installed)

COOLING



To use the air conditioner to cool interior:

- o Set the side vent controls to "OFF" to shut off outside air entry.
- o Turn on the fan control switch.
- o Turn on the air conditioner switch by pushing in on the switch. The air conditioner indicator light should come on at the same time.
- o Set the air intake control to "Fresh".
- o Set the temperature control to "Cool". "Cool" provides maximum cooling. The temperature may be moderated by the control toward "Warm".
- o Adjust the fan control to the desired speed. For faster cooling, turn the fan control to one of the higher speeds or temporarily select the "Recirculation" position on the air intake control.

DEHUMIDIFIED HEATING

For dehumidified heating:

- o Turn on the fan control switch.
- o Turn on the air conditioner switch. The air conditioner indicator light should come on at the same time.
- o Set the air intake control to "Fresh".
- o Set the air flow control to "Foot".
- o Adjust the fan control to the desired speed. For more rapid action, set the fan at one of the higher speeds.
- o Adjust the temperature control to provide the desired amount of warmth.

Notes concerning air conditioner operation

(1) Park the vehicle in the shade. Parking under the hot sun will make the car interior extremely hot and it will require a long time to cool the interior. If it is necessary to park in the sun, open the windows for the first few minutes of air conditioner operation to expel the hot air.

(2) Close the windows when the air conditioner is in use. The entry of outside air through open windows will reduce the cooling efficiency.

(3) When driving at low speeds, shift down to increase the engine rpm. If you must drive slowly in heavy traffic, shift to a lower gear to increase the engine rpm in order to obtain better efficiency and avoid overheating the engine.

(4) On steep grades, turn the air conditioner off to avoid the possibility of the engine overheating.

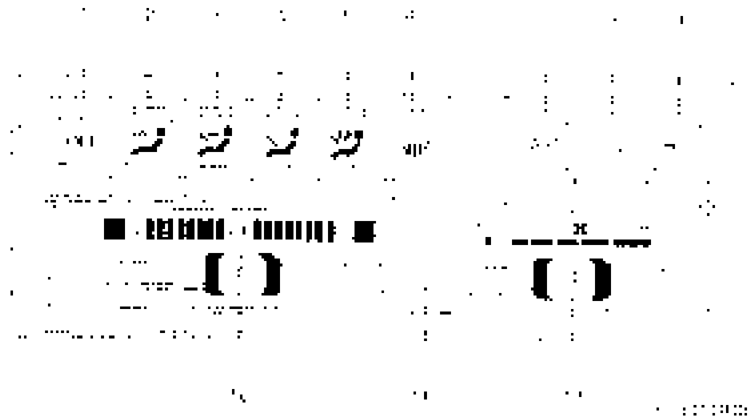
Operation hints

The air conditioner not only cools the air but also dehumidifies it, thus offering greater comfort. Too much cooling is not good for the health. The air temperature should be only 5 to 6°C (9 to 11°F) lower than the outside air to the extent that you feel somewhat cool.

During a long period of disuse

The air conditioner should be operated for at least several minutes each week even in cold weather. This is to prevent poor lubrication of the compressor bearing parts and to maintain the air conditioner in the best operating condition.

AUTOMATIC HEATING AND COOLING CONTROLS (If installed)



Your vehicle is equipped with an automatic heating and cooling system controlled as you simply set the desired temperature.

Semi-Automatic Temperature Control Features

BUTTON INTERLOCKS-Depressing a button in an interlock group will cause that button to latch and will release the previously selected button.

OFF BUTTON-This button turns complete system off.

DEFROST SAFETY OVERRIDES-For safety and defroster performance, the fresh air/recirculation automatically switches during the defrost button will select the system in outside air.

OVERRIDE BUTTONS: The Off and Defrost buttons automatically override the air conditioner and [illegible] When in override mode, the air [illegible] and outside air [illegible] pushed.

INDICATORS: When the instrument panel [illegible] the control selection can easily be determined by illuminated indicators on the [illegible] and buttons.

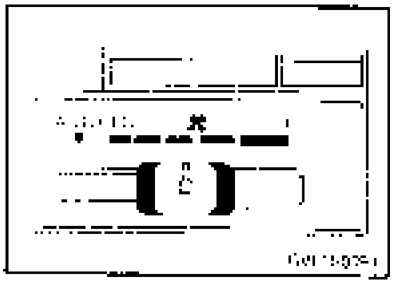
DIAGNOSTIC LED (Light Emitted Diode): [illegible] automatic temperature control system diagnostics [illegible] of [illegible] testing and [illegible]

TEMPERATURE AND BLOWER CONTROL LEVERS: [illegible] levers have eight detents throughout the [illegible] range with [illegible] Full Air Conditioner, Full Heat, and Auto Blower.

1. Off button
2. Face button
3. Bi-level button
4. Floor button
5. Floor/defrost button
6. Defrost button
7. Air conditioner button
8. Recirculation button
9. Fresh button
10. Temperature control lever
11. Diagnostic LED (light emitting diode)
12. Blower control lever

BLOWER CONTROL

Automatic Blower Control



Automatic blower operation varies from low to high blower speed based on set temperature, [illegible] temperature, and ambient temperature. [illegible]

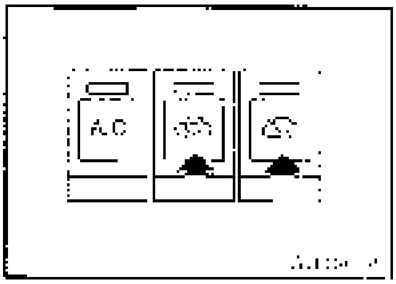
Manual Blower Control

[illegible] variable manual blower speed [illegible]

NOTE

If you want to operate rapid cooling or rapid heating, [illegible] lever on [illegible] position of manual mode.

AIR INTAKE CONTROL

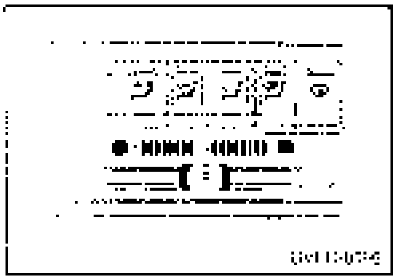


This allows you to select fresh outside air or to recirculate inside air. Push the button to get the proper interior condition.

NOTE

If any air flow control buttons are not pushed and also inside & outside buttons are not pushed, will be automatically operated to condition of fresh outside air. If DEFROST button pushed [illegible] automatically fresh outside air without selecting the flow control buttons.

AIR FLOW CONTROL BUTTONS



This is used to turn the fan on and off and to direct the flow of air. Air can be directed to the front dash board outlets or windshield. Six symbols are used to represent OFF, FACE, BI-LEVEL, FLOOR, FLOOR-DEFROST and DEFROST.
To use the automatic heating and cooling system, you first should push the one of these buttons except "OFF" button.
In case of "OFF" button pushed in, you can not push the air conditioner switch button and the air intake control buttons. This is a normal condition.

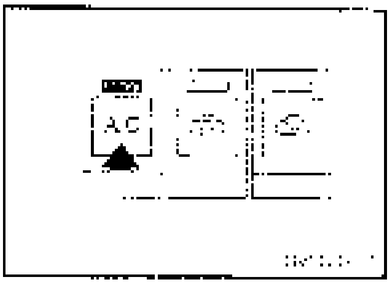
NOTE

If "OFF" button is pushed, be automatically operated in condition of inside air flow.

TEMPERATURE CONTROL

This is used to set the desired temperature. The numbers on the face plate indicate the centigrade or fahrenheit temperature.

AIR CONDITIONER BUTTON



This is used to turn the air conditioner on and off. To turn the air conditioner on, push the button. To turn it off push the button again.

NOTE

In case of "OFF" button pushed in, the air conditioner switch button does not engage. This is a normal condition.

HEATING CONTROLS

- For normal heater operation, put the air intake control button to the "FRESH" position and put the mode door control button to the "FLOOR" position. For faster heating, put the air intake control button to the "RE-CIRCULATION" position. If the windows fog up, put the mode door control button to the "DEFROST" position.
- For the most comfortable interior setting, move the temperature control lever to the desired position and the blower control lever to the desired position.

BI-LEVEL HEATING

This makes it possible to have cool air from the dashboard vents and warm air from the floor outlets at the same time.

To use this feature:

- o Select the Bi-level mode control button.
- o Turn off the air conditioner switch.
- o Set the air intake control to FRESH.
- o For the most comfortable interior setting move the temperature control lever to the desired position and the blower control lever to the desired position.

VENTILATION

To operate the ventilation system:

- o Set the air intake control to FRESH.
- o To direct all of the air to the dashboard vents, set the air flow control to "FACE".
- o For the most comfortable interior setting move the temperature control lever to the desired position and the blower control lever to the desired position.

DEFROSTING/DEFOGGING

To use the heating/ventilation system to defrost or defog the windshield:

- o Push the "DEFROST" mode control button.
- o For the most comfortable interior setting, move the temperature control lever to the desired position and the blower control lever to the desired position.

OPERATING TIPS

- o To keep dust or unpleasant fumes from entering the car through the ventilation system, temporarily select the "OFF" mode door control button. Be sure to return the switch to "FRESH" when the irritation has passed to keep fresh air in the vehicle. This will help keep the driver alert and comfortable.
- o Air for the heating/cooling system is drawn in through the grilles just ahead of the windshield. Care should be taken that these are not blocked by leaves, snow, ice or other obstructions.

NOTE

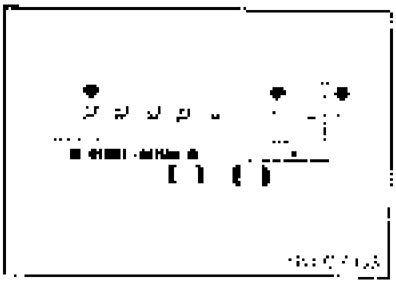
When operating with "OFF" mode door control button selected, it gradually operates with recirculated inside air and then blower control is stopped and blend door control is stopped.

COOLING CONTROLS

To use the air conditioner to cool interior:

- o Select one of the mode door control buttons except "OFF" button. For cooling, select the "VENT" mode door control button.
- o Turn on the air conditioner on/off switch by pushing in on the button.
- o For normal air conditioner operation, select the "FRESH" air intake control button. For faster cooling, select the "RECIRCULATION" air intake control button.
- o For the most comfortable conditions, move the temperature control lever to the desired degree and the blower control lever to the desired position.

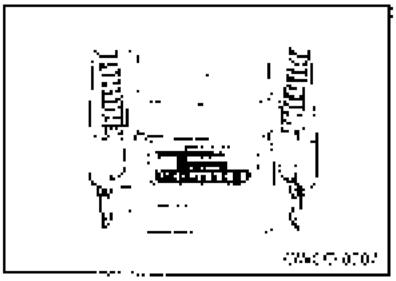
DEHUMIDIFIED HEATING



For dehumidified heating:

- o Select the face mode selection button.
- o Turn on the air conditioner switch by pushing in on the button.
- o Select the fresh air switching button.
- o Move the blower switch to the desired speed. For more rapid action, move the blower switch to one of the higher speeds.
- o Move the temperature control lever to provide the desired amount of warmth.

Rear air conditioner *

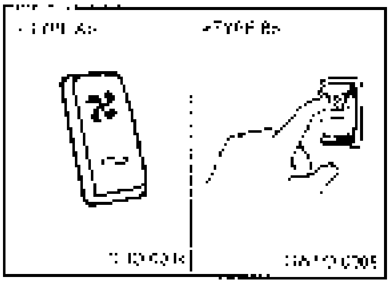


The rear air conditioner operates only when the front air conditioner is in operation.
The rear air conditioner switch is at the rear of the center console.

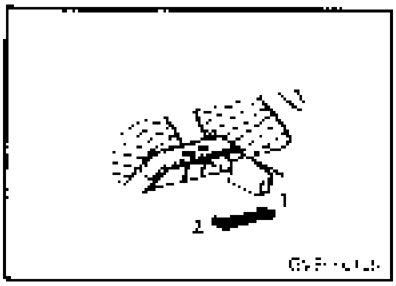
1 – Rear air conditioner switch
    Slide the rear air conditioner switch to operate the rear air conditioner.
    There are four fan speeds for control of the amount of airflow.

The rear air conditioner can only be used for cooling. For conditions such as defogging, dehumidifying, the front air conditioner should be used.

Rear heater *



The rear heater can be operated when the ignition switch is at the "ON" position.
The indicator lamp will illuminate while the rear heater is on (EU only).



Set the rear heater lever under the rear seat to the "OPEN" position.

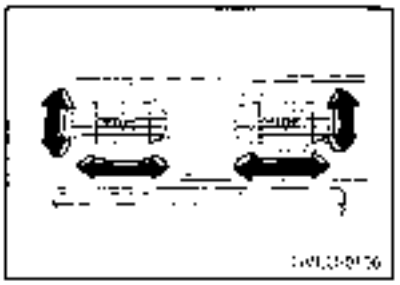
1 – SHUT
2 – OPEN

NOTE

When engine coolant temperature is low, outlet air will be cool.
Set the lever to the "SHUT" position when the rear heater is not in use.

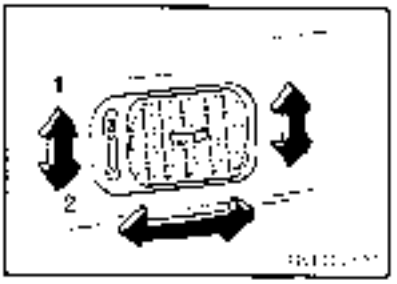
Ventilators

Centre ventilators



Air will flow from the centre vents when the mode selection lever is set to the face position and the fan is switched on.
Adjust the direction of the airflow by moving the louvers.

Side ventilators

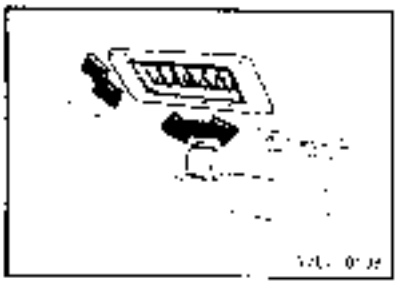


Air will flow from the vents when the mode lever is in the open position.

1 - Open
2 - Close

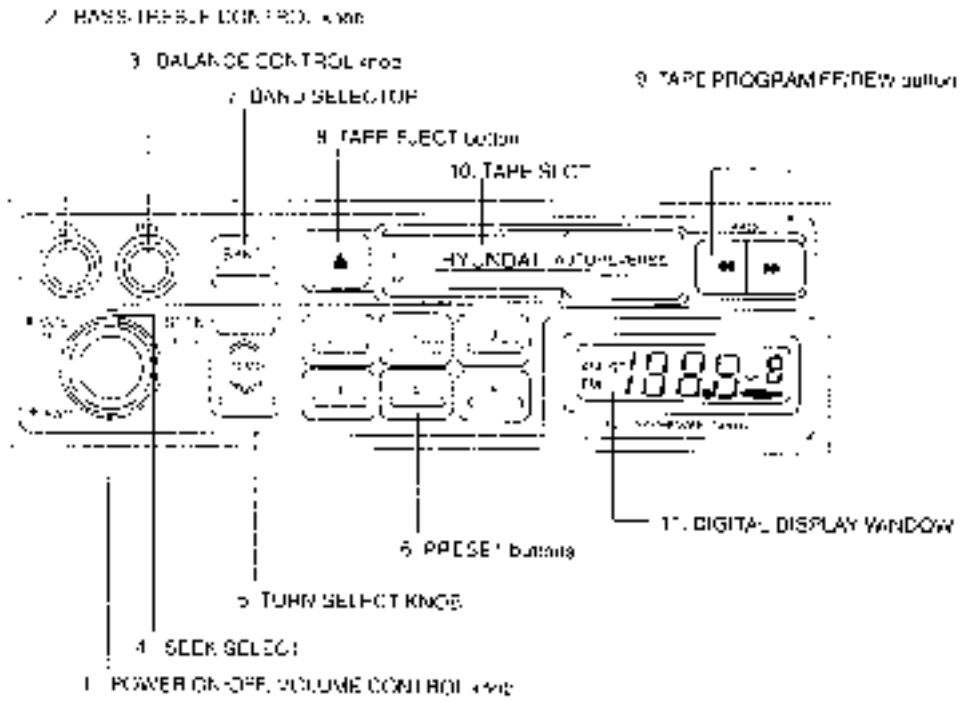
The amount of airflow is affected by the vent which will take into the vents or when driving.
Adjust the direction of the airflow by moving the louvers.

Roof side ventilators *



Air will flow from the ventilators when the mode or ventilation is switched on.
Adjust the direction of the airflow by moving the louvers.

CASSETTE TAPE PLAYER OPERATION (HMC-600) (If Installed)



1. **POWER ON/OFF, VOLUME CONTROL knob**
   The radio unit may be operated when the ignition key is in the "ACC" or "ON" position.
   Rotate the knob clockwise to switch the radio unit on, and to increase the volume. Turn the knob counterclockwise to reduce the volume, and to switch the radio unit off.

2. **BASS-TREBLE CONTROL**
   Press to pop the knob out and turn to the left or right for the desired bass tone.

3. **BALANCE CONTROL**
   Press to pop the knob out and turn it clockwise or counterclockwise until sound from the left and right speakers is about equal from your listening position.

4. **SEEK OPERATION (Automatic Channel Selection)**
   When the volume control knob is pressed, the unit will automatically tune to the next higher frequency.

5. **TUNE (Manual) SELECTION**
   When the upper side of the key is pressed, the frequency will increase in 0.1 MHz steps in FM band, 9 KHz in AM band and vice versa.
   With the button held down for 0.5 sec or more, the scan signal [illegible] is ignored, and channel selection continues.

6. **PRESET buttons**
   Six (6) stations for AM and FM respectively can be preset in the electronic memory circuit on this unit.

HOW TO PRESET STATIONS

Six AM and twelve FM stations may be programmed into the memory of the radio. Then by simply pressing the band select button and/or one of the six station select buttons, you may recall any of these stations instantly. To program the stations, follow these steps:

- Press band selector to set the band for AM, FM and FM2.
- Select the desired station to be stored by seek, scan or manual tuning.
- Determine the preset station select button you wish to use to access that station.
- Press the station select button and hold it for [illegible] the memory [illegible] which select button you have depressed. The frequency display will flash after [illegible] been stored into the memory. You should then release the button, and proceed to program the next desired station. A total of 18 stations can be programmed by selecting an AM and two FM stations per button.
- When completed, any preset station may be recalled by selecting AM, FM or FM2 band and the appropriate Station button.

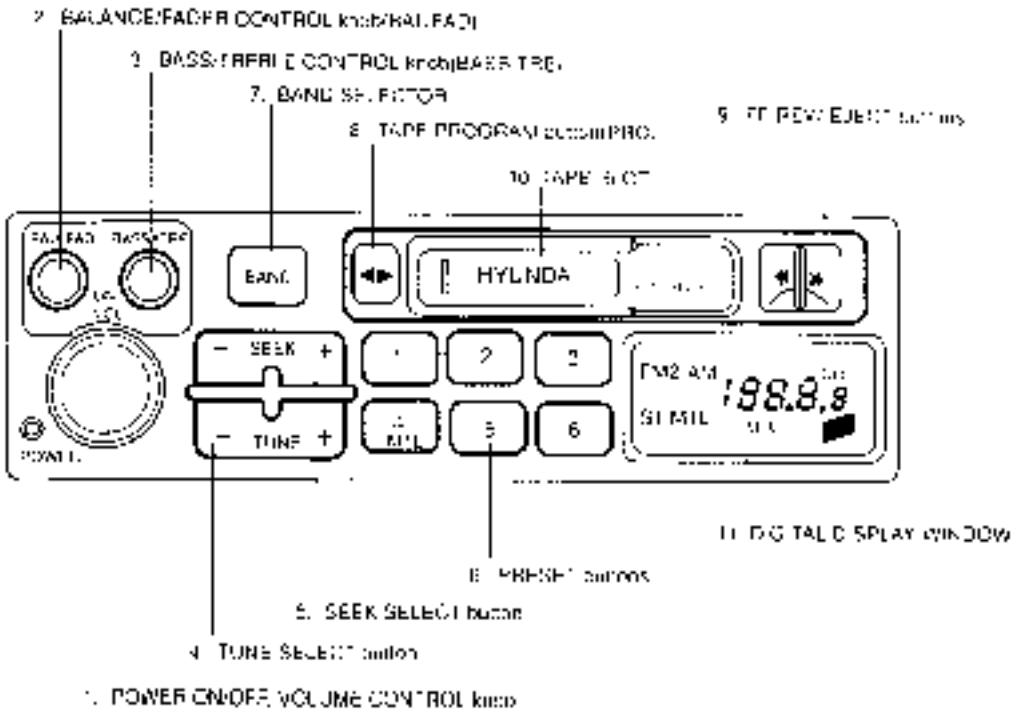
7. **BAND SELECTOR**
   Pressing the BAND button changes the AM, FM1 and FM2 bands. The selected is displayed on LCD.

8. **TAPE EJECT BUTTON**
   To eject the tape, press the button.

6. **TAPE PROGRAM**

When you press the button whose arrow points in the same direction as the tape play arrow in the display the tape will advance at high speed.
When you press the button whose arrow points in the opposite direction to the tape play arrow in the display the tape will rewind at high speed. To stop FF or REW action press the opposite button.
When you press two buttons simultaneously you play the reverse side of the tape and an arrow will appear in the display to show tape direction.

CASSETTE TAPE PLAYER OPERATION (H 810) (If installed)



1. **POWER ON/OFF, VOLUME CONTROL knob**
The radio unit may be operated when the ignition key is in the [illegible] or [illegible] position. [illegible] the knob clockwise to switch the radio on [illegible] and to increase the volume. Turn the knob counterclockwise to reduce the volume and to switch the radio unit off.

2. **BAL (Balance Control) knob**
[illegible] control knob [illegible] push. Turn the control knob clockwise to emphasize right speaker sound. Left speaker sound will be attenuated.
When the control knob is turned counterclockwise, left speaker sound will be emphasized. Right speaker sound will be attenuated.

FAD (Fader Control) knob
Further [illegible] of the [illegible] knob. Turn the control knob clockwise to emphasize the front speaker sound. [illegible] speaker sound will be attenuated.
When the [illegible] knob is turned counterclockwise, [illegible] speaker sound will be emphasized. Front speaker sound will be attenuated.

3. **BASS CONTROL knob**
Press to pop the knob out and turn to the left or right for the desired bass tone.
TREBLE CONTROL knob
Further pull [illegible] position of popped up knob. Turn to the [illegible] for the desired treble tone.

4. **TUNE (manual) Selection**
Press the [illegible] to increase or decrease the frequency. With the button held down for [illegible] more [illegible] signal [illegible] is ignored and channel selection continues.

5. **SEEK Operation (Automatic Channel Selection)**
When the [illegible] side is pressed, the unit will automatically tune to the next higher frequency [illegible] when the [illegible] side is pressed, it will automatically tune the next lower frequency.

6. **PRESET STATION SELECT** button
Six (6) stations for AM, FM and FM2 respectively can be preset in the electronic memory circuit on this unit.

HOW TO PRESET STATIONS

Six AM and twelve FM stations may be programmed into the memory of the radio. Then by simply pressing the band select button and then one of the six station select buttons you may recall any of these stations instantly. To program the stations, follow these steps:

a. Press band selector to set the band to AM, FM and FM2.
b. Select the desired station to be stored by seek, scan or manual tuning.
c. Determine the preset station select button you wish to use to access that station.
d. Press the station select button for more than two seconds. A select button indicator will show in the display indicating which select button you have been pressed. The frequency display will blink after it has been stored into the memory. You should then release the button, and proceed to program the next desired station. A total of 18 stations can be programmed by selecting one AM and two FM stations per button.

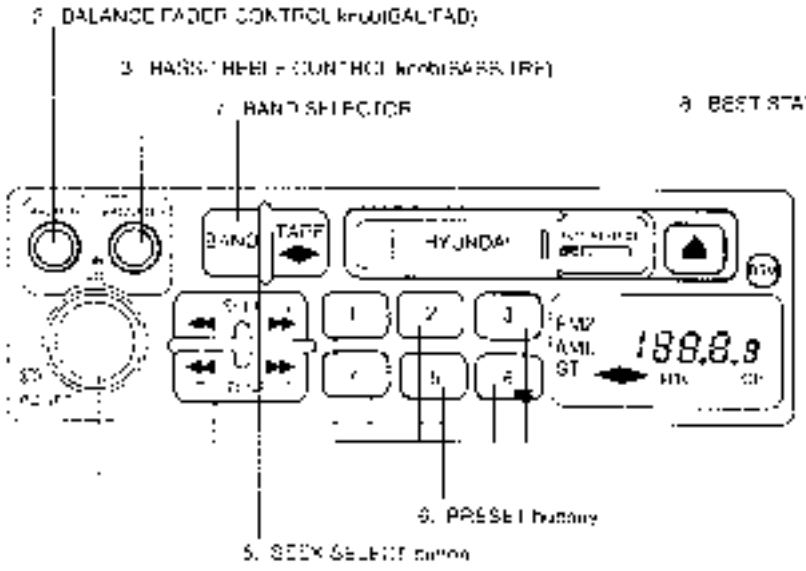
c When completed, any preset station may be recalled by selecting AM,FM or FM2 band and the appropriate station button.

7 **BAND Selector**
Pressing the BAND button change the AM,FM1 and FM2 bands. The mode selected is displayed on LCD.

8 **TAPE PROGRAM button**
This allows you to play the reverse side of the tape by merely depressing the program button. An arrow will appear in the display to show tape direction.

5. **FF/REW/EJECT buttons**
When you press the button whose arrow is in the same direction as the tape play arrow in the display the tape will advance at high speed. When you press the button whose arrow is in the display the tape will rewind at high speed. To stop FF or REW action, press the opposite button or press the tape program button. But if the tape program button is pressed, it will also reverse the tape play direction. To eject the tape press the FF and REW buttons simultaneously.

CASSETTE TAPE PLAYER OPERATION (H-820) (If installed)



1 **POWER ON/OFF, VOLUME CONTROL knob**
The radio [illegible] may be operated when [illegible] in the "ACC" or "ON" [illegible]. Rotate the knob clockwise to [illegible] to reduce the volume and to switch [illegible] unit off.

2 **BAL (Balance Control) knob**
[illegible] knob clockwise to emphasize [illegible] right speaker sound. (Left speaker [illegible]) [illegible] left speaker sound will be [illegible]

FAD (Fader Control) knob
[illegible] position of popped up [illegible]. Turn the control knob clockwise [illegible] sound (Rear [illegible]

3 **BASS CONTROL knob**
[illegible] to the left or right for the desired bass tone.

TREBLE CONTROL knob
[illegible] Turn to the right [illegible] treble tone.

4 **TUNE (manual) Selection**
Press the [illegible] frequency. [illegible]

5. **SEEK Operation (Automatic Channel Selection)**
[illegible] frequency [illegible] next lower frequency.

6. **PRESET STATION SELECT button**
[illegible] AM, FM [illegible] memory circuit on this unit.

HOW TO PRESET STATIONS

Six AM and twelve FM stations may be [illegible] the radio. Then, by simply pressing the band select button [illegible] you may recall any of these stations [illegible]. To program the stations follow these steps:

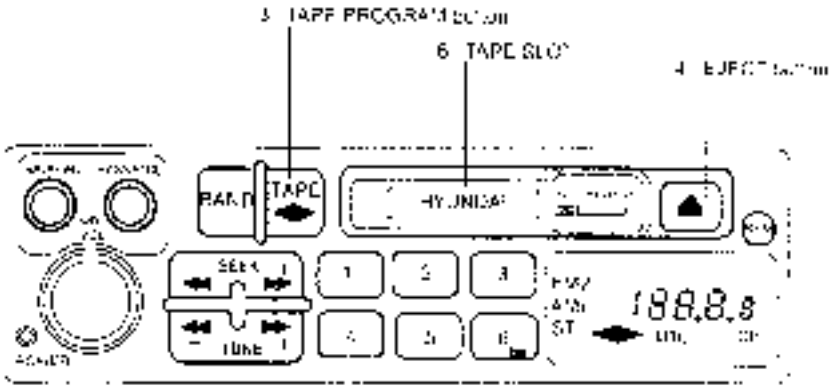
1. Press band select [illegible] the band to AM, FM1 and FM2.
2. Select the desired [illegible] tuning.
3. Determine the [illegible] button you wish to use [illegible]
4. Press the [illegible] button [illegible] AM and FM stations [illegible]

6. When completed, any preset station may be recalled by selecting AM, FM1 or FM2 band and the appropriate station button.

7. **BAND Selector**
   Pressing the BAND button changes the AM, FM1 and FM2 bands. The mode selected is displayed on LCD.

8. **BEST STATION MEMORY button (BSM)**
   When the BSM button is pressed for two seconds or longer, the preceding memory is all cleared, and six channels with the highest field intensity are selected and stored one by one in the sequence of frequency.

CASSETTE TAPE PLAYER OPERATION (H-820) (If installed)



1. **FF/REW button**

o The FF (fast forward tape winding) starts when the (+) side is pressed during the PLAY or REW.

o The play starts when the (+) side is pressed again during the FF.

o The REW (rewinding) starts when the (-) side is pressed during the PLAY or FF.

o The play starts when the (-) side is pressed again during the REW.

2 **AUTO MUSIC SELECT button**

Press the button to find the starting point of each song on prerecorded music tape. The quiet space between songs (must have at least 4 sec. gap) can be detected by the AUTO MUSIC SELECT button.

o Pressing the (+) side will play the beginning of the next music segment.

o Pressing the (-) side will start replay at the beginning of the music just listened to.

3 **TAPE PROGRAM button**

This allow you to play the reverse side of the tape by merely depressing the program button.

An arrow will appear in the display to show tape direction.

4. **EJECT button**

o When the EJECT button is pressed with the cassette loaded, the cassette is ejected.

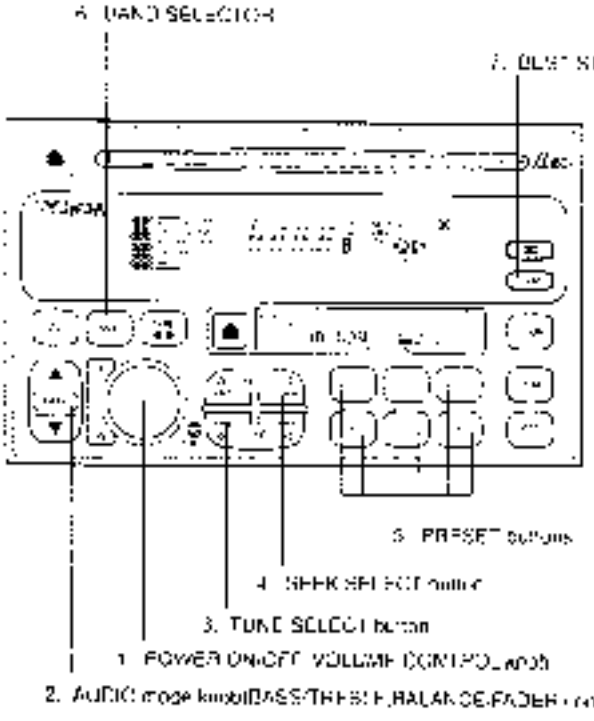
o When the EJECT button is pressed during the FF/REW, the cassette is ejected.

5 **DOLBY SELECT button**

If you get background noise during PLAY, you can reduce the considerably by merely pressing DOLBY SELECT button.

If you want to release, press the button again.

STEREO RADIO OPERATION (H 850) (If installed)



1. **POWER ON-OFF, VOLUME CONTROL knob**

The radio unit may be operated when the ignition key is in the "ACC" or "ON" position. Press the button to switch the power on. The VFD (Vacuum Fluorescent Display) shows the radio frequency in the radio mode, or the tape direction in the tape mode. To switch the power off, press the button again.

VOLUME CONTROL

Rotate the knob clockwise to increase the volume, and turn the knob counterclockwise to reduce the volume. The VFD shows the change in volume.

2. **AUDIO MODE Knob**

Each press the [A MODE] button changes the display as follows:

BASS → TRE → BAL → FAD

1) **Adjusting Bass**

Press the [A MODE] button once and the display shows.
To increase bass, press the ∧ button and to decrease bass, press the ∨ button.

MAX
BAS
MIN

2) **Adjusting Treble**

Press the [A MODE] button twice and the display shows:

MAX
TRE
MIN

Press the ∧ button to increase the treble, while the ∨ button decreases the treble.

3) **Adjusting Balance**

Press the [A MODE] button three times and the display shows:

MAX R
BAL
MIN L

Press the ∧ button to shift the balance to the right speakers, while the ∨ button shifts it to the left speakers.

4) **Adjusting the Fader**

Balancing the volume between the front and rear speakers.
Press the [A MODE] button four times and the display shows.

MAX F
FAD
MIN R

Press the ∧ button transfers the sound to the front speakers, while the ∨ button transfers it to the rear speakers.

3. **TUNE (manual) Selection**

Press the [illegible] side or [illegible] side to increase or decrease the frequency. With the button held down for 0.5 sec. or more, the stop signal (broadcasting radio wave) is ignored and channel selection continues.

4. **SEEK Operation (Automatic Channel Selection)**

When the [∧] side is pressed, the unit will automatically tune to the next higher frequency, and when the [∨] side is pressed, it will automatically tune to the next lower frequency.

5. **PRESET STATION SELECT button**
Six (6) stations for AM, FM and FM2 respectively can be preset in the electronic memory circuit on this unit.

HOW TO PRESET STATIONS

Six AM and twelve FM stations may be programmed into the memory of the radio. Then, by simply pressing the band select button and one of the six station select buttons, you may recall any of these stations instantly. To program the stations, follow these steps:

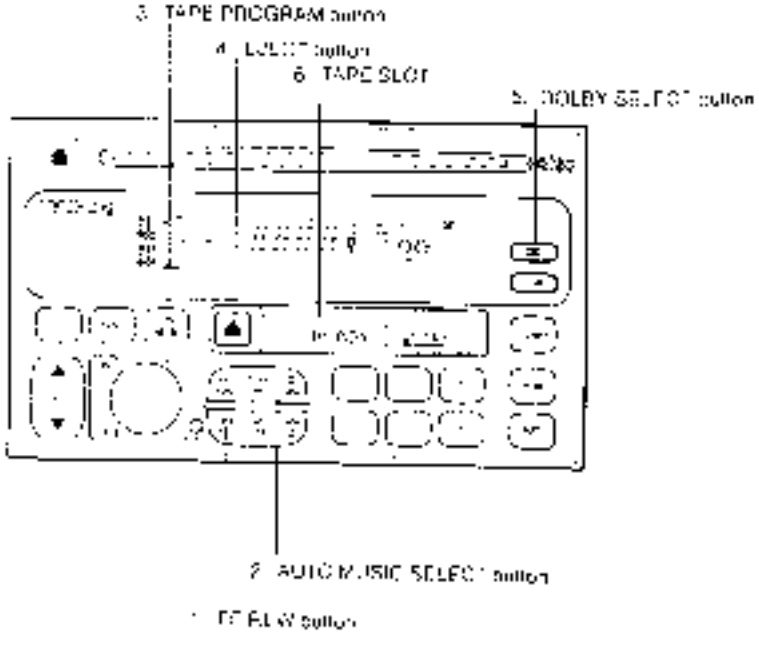
1. Press band selector to set the band for AM, FM and FM2.
2. Select the desired station to be stored by seek, scan or manual tuning.
3. Determine the preset station select button you wish to use to access that station.
4. Press the station select button for more than two seconds. A select button indicator will show in the display indicating which select button you have depressed. The frequency display will flash after it has been stored into the memory. You should then release the button, and proceed to program the next desired station. A total of 18 stations can be programmed by selecting one AM and two FM stations per button.

o When [illegible], any preset station may be recalled by selecting AM, FM or FM2 band and the appropriate station button.

6. **BAND Selector**
Pressing the BAND button change the AM, FM1 and FM2 mode. The mode selected is displayed on the LCD.

7. **BEST STATION MEMORY button (BSM)**
When the BSM button is pressed for two seconds or longer, the [illegible] memory is all cleared and 6 frequencies with the highest field intensity are [illegible] are stored in memory. The stations selected are stored in the sequence of the preset key.

CASSETTE TAPE PLAYER OPERATION (H 850) (If installed)



1. **FF/REW button**

- The FF (fast forward tape winding) starts when the >> side is pressed during the PLAY or REW modes.
- Tape play starts when the >> side is pressed again during the FF.
- The REW (rewinding) starts when the << side is pressed during the PLAY or FF modes.
- The play starts when the << side is pressed again during the REW.

2. **AUTO MUSIC SELECT button**

Press the button to find the starting point of each song in prerecorded music tape. The short space between songs (must have at least 4 sec. gap) can be located by the AUTO MUSIC SELECT button.

- Pressing the >> side will play the beginning of the next music segment.
- Pressing the << side will start replay at the beginning of the music just played.

3. **TAPE PROGRAM button**

This allow you to play the reverse side of the tape by merely depressing the program button.

An arrow will appear in the display to show tape direction.

4. **EJECT button**

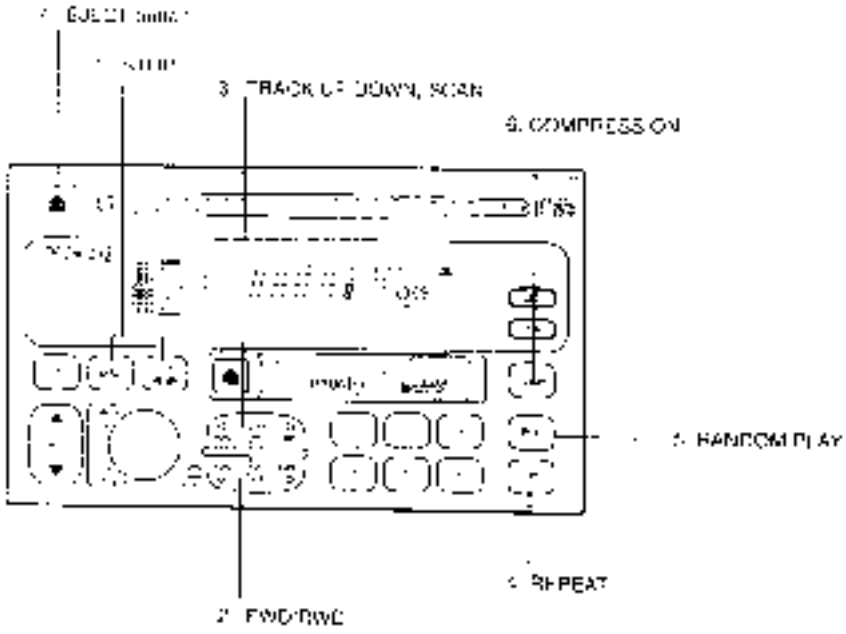
- When the EJECT button is pressed with the cassette tab top, the cassette is ejected.
- When the EJECT button is pressed during the FF/REW mode, the cassette is ejected.

5. **DOLBY SELECT button**

If you get background noise during PLAY, you can reduce the noise by merely pressing DOLBY SELECT button.

If you want to hear it as the original again.

COMPACT DISC PLAYER OPERATION (H 850) (If installed)



1. **STOP**
   a. Insert the CD to start CD playback during the radio operation or cassette tape playing.
   b. Press the   or   button to Stop CD playback and to change the source to Radio or Cassette Tape.

2. **FWD/RWD**
   When the disc is playing, if you hold the button continuously the track number is increased and vice versa.

3. **TRACK UP/DOWN, SCAN**
   a. The desired track on the disc currently being played can be selected using the track number.
   b. Pressing the (+) side once increases the track number by one and pressing the (-) side decreases it.

   SCAN
   a. Press the (+) or (-) side for more than two seconds to playback the first 5 seconds of each track.
   b. Scan play will be repeated until you release SCAN operation.
   c. To release SCAN operation, press the SEEK button again.

4. **REPEAT**
   a. To repeat the music you are listening to, press the RPT button and to cancel music repeat, press again.

   c. To release RPT operation, all the tracks are played back and the unit will play back again from the first track.

5. **RANDOM PLAY**
   a. A disc can be played back in a random sequence.
   b. Press the RANDOM button to playback in a random sequence when the disc is playing.
   c. After all the tracks are played once, the unit will play back again in random sequence. The same track will not be played back twice in one cycle of the disc.

6. **Compression**

Press the COMPRESS ON button to activate the Compression function.
Press the COMPRESS ON button again to deactivate.
This feature allows the unit to narrow the dynamic range (difference between high and low volume) to decrease the sudden change in sound difference when you change from tape/radio mode to disc mode.

Care of DISC

Proper Handing

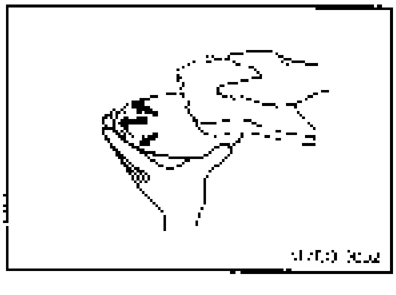
Handle your disc as shown. Do not drop the disc. Hold the disc so you will not leave fingerprints on the surface. If the surface is scratched, it may cause the pickup to skip signal tracks. Do not attach tape, paper or gummed labels on the disc. Do not write on the disc.

Damage Disc

Do not attempt to play damaged, warped or cracked discs. It can seriously damage the playback mechanism.

Storage

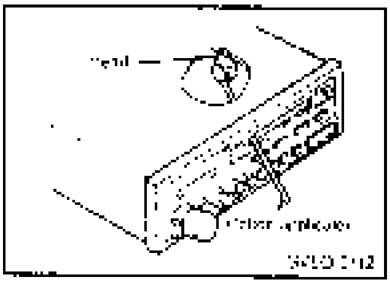
When not in use, place your disc in the original case and store it in a cool place away from direct sunlight and dust.
Do not grip or pull out the disc with your hand while the disc is being pulled into the unit by the loading mechanism.
Do not pull the unit from the dash immediately after a disc is inserted or the Open Switch has been pressed. If the unit is pulled out before an operation is completed, the disc will be unstable in the unit and may be damaged.
Do not attempt to insert a disc into the unit when the unit is out of the dash or the power is off.



Keep Your Discs clean

Fingerprints, dust or soil on the surface could cause the pickup to skip signal tracks. Wipe the surface clean with a clean soft cloth. If the surface is heavily soiled, dampen a clean soft cloth in a solution of mild neutral detergent to wipe it clean. [illegible]

HEAD CLEANING



The playback head performs an important role in the reproduction of recordings. If the head should become dirty, tone quality suffers [illegible] skipping will occur, so the head should be cleaned periodically every one or two months.
If a cotton swab is used, dip the swab into absolute [illegible] or head cleaning fluid and use it to [illegible] the soil in the tape head.

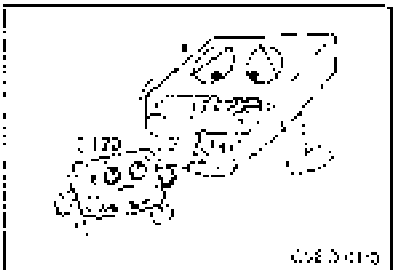
NOTE

- o Don't use metal or magnetic [illegible] the head.
- o Never use tweezers or pliers [illegible] with cotton or gauze because they will scratch the head.
- o When using a cleaning tape, play it [illegible] on one side for normal cleaning. Too much use of the cleaning tape can increase head wear. Be sure to read the cleaning tape instructions before use.

CAUTION

- o Use ungrounded speakers only.
- o Do not ground any of the speaker terminals.
- o Be sure to insulate exposed wiring so as to protect it from short circuit if touched with some metal items.

CASSETTE CARE



C08D010

1. When the unit is not in operation, remove the cassette from the player and keep it in its plastic case.
2. Keep the tape away from direct sunlight, dirt or dust. Do not touch the tape surface with your fingers to avoid oil accumulating on the tape.
3. Do not use cassette tape lasting more than C-90 (90 MIN.). C-120 or C-180 tape is extremely thin and sometimes tangles in the drive mechanism. Its use should be avoided if at all possible.
4. Always be sure that the tape is tightly wound on its reel before inserting in the player. Rotate a pencil in the drive sprockets to wind up any slack.
5. If the tape has been unevenly wound, the force required for tape transport is too high, which will cause play to switch automatically to the other side. (The unit senses that the tape has reached the end.) When this happens, use fast forward to rewind the tape uniformly before attempting playback.
6. Before inserting the tape, make sure that the label is adhering firmly to the cassette.
7. Keep the cassette away from magnetized objects (motor, speaker, transformer, ETC.). This is to avoid unwanted noise and loss of the tone quality of the tape.
8. Keep the cassette in a cool, dry place.

POWER ANTENNA (If installed)

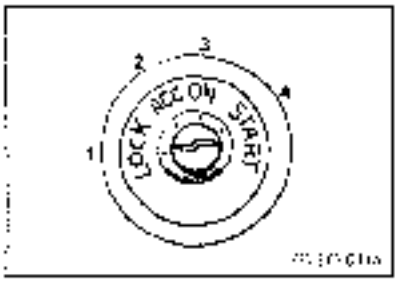
The antenna will automatically be extended when the radio power switch is turned "ON". The antenna will automatically be retracted and stored when either the radio power switch is turned "OFF" or the ignition key is set to the "LOCK" position.

NOTE

- Before turning on the radio, make sure that no one is near the antenna.
- Before entering an automatic car wash or a place with a low height clearance, be sure that the antenna is retracted and stored.
- If the antenna is dirty, be sure to clean it in order to avoid an operational malfunction.

Starting and driving

Ignition switch



1. The engine stops and the steering wheel is locked. The key can be inserted and removed only at this position.
2. The engine stops, but the radio, cigarette lighter, etc. can be operated.
3. The engine is running and all electrical systems can be operated.
   For diesel powered vehicles: The glow plug is automatically activated at this position to pre-heat the engine.
4. The starter motor operates. After the engine has started, release the key and it will automatically return to the "ON" position.

CAUTION

If the key is accidentally removed, the steering wheel will lock, making it impossible to control the vehicle.

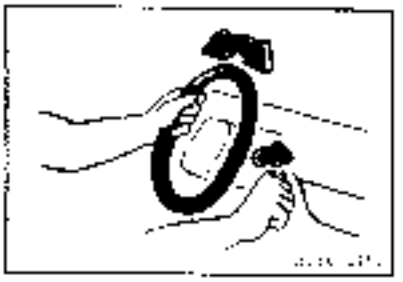
(1) If the engine is stopped while driving, the brake servomechanism will cease to function and braking efficiency will deteriorate.
(2) Do not leave the key at the "ON" position for a long time when the engine is not running; doing so will cause the battery to be discharged.
(3) Do not turn the key to the "START" position when the engine is running; doing so could damage the starter motor.
(4) Remove the key when leaving the vehicle.

How to lock and unlock the steering wheel

TO LOCK

Turn the key to the LOCK position. Slowly turn the steering wheel until it is locked.

TO UNLOCK



Turn the key to the ACC position while firmly holding the steering wheel lightly.

CAUTION

If the key is accidentally removed, the steering wheel will lock, making it impossible to control the vehicle.

Starting the engine

Tips for starting

(1) Do not operate the starter motor continuously for longer than ten seconds, doing so could run down the battery. If the engine does not start, turn the ignition switch back to "LOCK", wait a few minutes, and then try again.

(2) If the engine cannot be started because the battery is weak or dead, refer to the emergency starting section for instructions on starting the engine.

(3) After starting the engine, do not keep the engine idling without driving. Only when the atmospheric temperature is very low, warm up the engine at high idling speed to ensure [illegible]

CAUTION

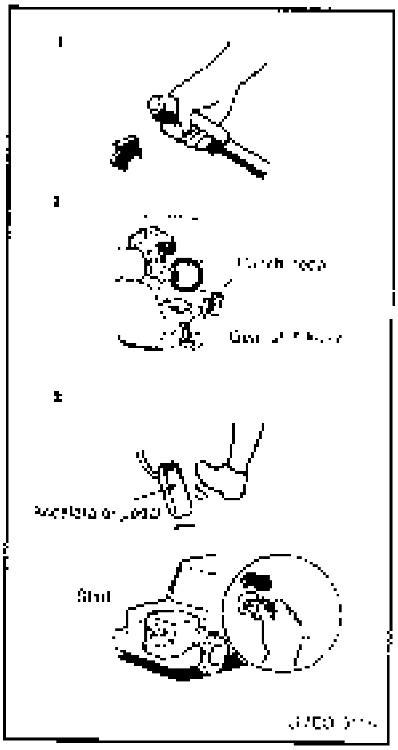
(1) For petrol powered vehicles, do not keep the engine running for a long time in a closed or poorly ventilated place. Carbon Monoxide gas is odorless and extremely poisonous.

(2) Do not run the engine at high rpm or drive the vehicle at high speed until the engine has had a chance to warm up.

(3) Release the ignition key as soon as the engine starts to avoid damaging the starter motor.

(4) For diesel powered vehicles do not stop the engine immediately after operating the vehicle at high speeds. Allow the engine to idle for approximately 60 seconds or more to give the turbocharger a chance to cool down.

Starting the engine (diesel-powered vehicles)



VEHICLES EQUIPPED WITH DIESEL PREHEAT INDICATION LAMP

1. Apply the parking brake.
2. On vehicles with a manual transmission, move the gearshift lever to neutral and depress the clutch pedal all the way. On vehicles with an automatic transmission, move the selector lever to the "P" position.
3. Turn the ignition key to the "ON" position. The diesel preheat indicator lamp will first illuminate in amber, and then after a short time the lamp turn off, indicating that preheating is completed.
4. Operate the accelerator pedal as described below in accordance with the atmospheric temperature and/or engine condition and then start the engine.
5. When the atmospheric temperature is moderate or the engine is warm, start the engine without depressing the accelerator pedal.
6. When the atmospheric temperature is low and the engine is cold, start the engine while depressing the accelerator pedal. If the atmospheric temperature is very low, setting the ignition switch to ON for one or two seconds before attempting to start the engine will make it easier to start.

Engine rpm adjustment knob *

When the outside air temperature is very low or when it is necessary to warm up the engine, rotate the control knob to the point at which the engine runs smoothly, and then once the warming up is complete, return the knob back in.

CAUTION

Never attempt to adjust the vehicle during driving by using the control knob.

Starting the engine (gasoline-powered vehicles)

FUEL INJECTION TYPE

This vehicle is equipped with an electronically controlled mixture device and fuel injection which is automatically controlled. When starting the engine, do not depress the accelerator pedal.

1. Apply the parking brake.
2. On vehicles with a manual transmission, move the gearshift lever to neutral and depress the clutch pedal all the way. On vehicles with an automatic transmission, move the selector lever to the "P" position.
3. Start the engine without depressing the accelerator pedal.

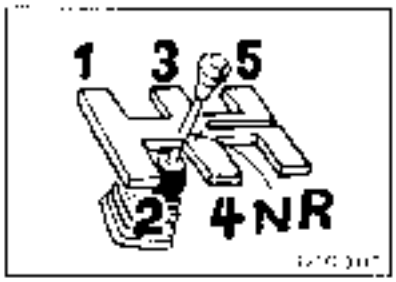
NOTE

If the engine has become flooded during starting, first operate the starter 5 or 6 seconds while depressing the accelerator pedal fully and then start the engine without depressing the accelerator pedal.

At extreme cold ambient temperature

If the engine won't start, depress the accelerator pedal about halfway during starting the engine. Once the engine starts, release the accelerator pedal.

Manual tranamission



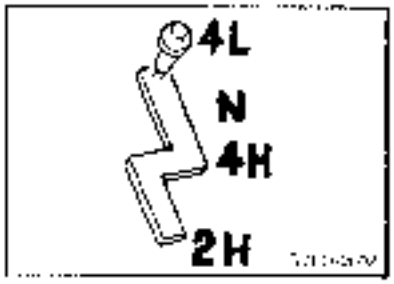
The shift pattern is shown on the gearshift lever knob. Be sure to fully depress the clutch pedal before attempting to shift the gears.

To shift into reverse from the gearshift position shown, first move the gearshift lever to neutral and then move it to reverse.

CAUTION

Do not move the gearshift lever into reverse while the vehicle is moving forward; doing so will damage the transmission.

Transfer shift lever



The lever is used to select between rear-wheel drive and four wheel drive and low-speed, high speed, and neutral.

If the transfer shift lever is set to either the "4H" or "4L" position when the ignition key is set to the "ON" position, the 4WD warning lamp will light up.

Lever position

2H: High-speed two-wheel drive
The two rear wheels will be driven, this position should be used for high-speed driving or for driving on normal roads.

4H: High-speed four-wheel drive
All four wheels will be driven. This position should be used for driving in snow, sand or rough roads or at other times when increased drive power is required, and when driving at normal speed.

N: Neutral
This position should be used when mechanical winch is to be operated or when the vehicle cannot be towed with the lever in this position.

NOTE

The N position is only on models with a manual transmission.

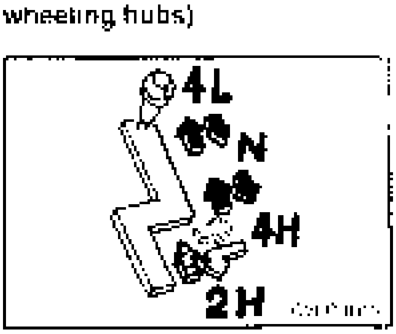
4L: Low-speed four-wheel drive
All four wheels will be driven. This position should be used for negotiating very steep grades. Driving in mud or at other times when increased drive power is needed. The drive power is at greatest when the lever is at this position.

CAUTION

(1) Four wheel drive should never be used on paved road surfaces. Don't drive your vehicle in the "4L" position on the public road, this would result in early wear of the tyres, clutch and other parts, increased fuel consumption and possible noise generation.

(2) Use 1st gear in the "4L" position for very low speed off road driving.

Lever operation (vehicles equipped with manual free wheeling hubs)



2H ↔ 4H

The transfer lever can be shifted only when both the left and right free wheeling hubs are set to the "LOCK" position. The lever can then be operated in this way while the vehicle is either stopped or moving, without depressing the clutch pedal.
At the [illegible] position, the lever will move automatically without pressing it, by spring action.

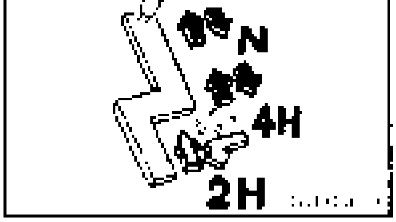
NOTE

Lever operation is still [illegible]
4H ↔ N ↔ 4L
The lever can be operated between these positions while the vehicle is stopped and the clutch pedal is depressed.
4H ↔ 2H
The lever can be operated in this way while the vehicle is either stopped or moving, without depressing the clutch pedal.

CAUTION

1. If four wheel drive is to be used, be sure to set both the left and the right manual free wheeling hubs to the "LOCK" position.
2. When the transfer shift lever is to be shifted from 2H or 4H to 4L, and vice versa, keep the vehicle completely stopped and automatic transmission selector lever at the "P" or "N" position beforehand.
3. If shifting is difficult, set the automatic transmission selector lever to the "R" position for a moment and then to the "P" or "N" position. Try to shift the transfer shift lever to 2H, 4H or 4L again still keeping the vehicle completely stopped.
4. When switching from 4H to 4L or from 4L to 4H with the automatic transmission selector lever in neutral, perform the switchover quickly. If it is done too slowly, the transmission gears may grind.

Lever operation (vehicles equipped with automatic free wheeling hubs)



2H ↔ 4H

The lever can be operated in this way while the vehicle is stopped or moving, without depressing the clutch pedal.
At the [illegible] position, the lever will move automatically without pressing it, by spring action.

NOTE

After the lever has been set to the "4H" position and the vehicle is driven a short distance, the free-wheeling hubs will automatically lock and the vehicle will change to four-wheel drive.

⬅ 4H [illegible] 4L

The lever can be operated between these positions while the vehicle is stopped [illegible] is depressed.

[illegible] 4H [illegible] 2H

The lever can be operated in this way while the vehicle is either stopped or moving with or without depressing the clutch pedal.

NOTE

After the lever has been set to the 2H position and slowly reverse the vehicle in a straight direction for 1 to 2 m (3.3 to 6.6 ft) the free-wheeling hubs will automatically unlock.

CAUTION

1. **When the transfer shift lever is to be shifted from 2H or 4H to 4L, and vice versa, keep the vehicle completely stopped and the automatic transmission selector lever at the "P" or "N" position beforehand.**
2. **If shifting is difficult, set the automatic transmission selector lever to the "R" position for a moment and then to the "P" or "N" position. Try to shift the transfer shift lever to 2H, 4H or 4L again still keeping the vehicle completely stopped.**
3. **When switching from 4H to 4L or from 4L to 4H with the automatic transmission selector lever in neutral, perform the switchover quickly. If it is done too slowly, the transmission gear may grind.**

Changing gears

Petrol powered vehicles

Shift range		[illegible]	[illegible]
1	2H, 4H	[illegible]	[illegible]
	4L	[illegible]	[illegible]
2	2H, 4H	[illegible]	[illegible]
	4L	[illegible]	[illegible]
3	2H, 4H	[illegible]	[illegible]
	4L	[illegible]	[illegible]
4	2H, 4H	[illegible]	[illegible]
	4L	[illegible]	[illegible]
5	2H, 4H	[illegible]	[illegible]
	4L	[illegible]	[illegible]

Diesel powered vehicles

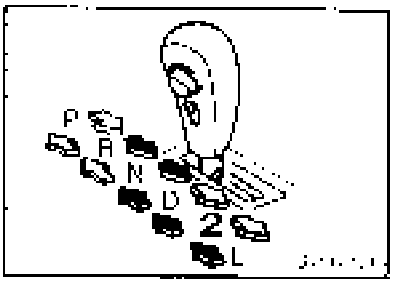
Shift range		[illegible]	[illegible]
1	2H, 4H	[illegible]	[illegible]
	4L	[illegible]	[illegible]
2	2H, 4H	[illegible]	[illegible]
	4L	[illegible]	[illegible]
3	2H, 4H	[illegible]	[illegible]
	4L	[illegible]	[illegible]
4	2H, 4H	[illegible]	[illegible]
	4L	[illegible]	[illegible]
5	2H, 4H	[illegible]	[illegible]
	4L	[illegible]	[illegible]

[illegible]

Always make sure to change to the gear with the vehicle speed matched to the engine speed. Proper shifting will increase fuel economy and prolong engine life.
Avoid shifting down at excessively high speed, doing so could damage the engine.

Economical speed range ← → Possible driving range

Automatic transmission*



The transmission has four forward speeds and one reverse speed.
The individual gears are selected automatically, depending on the position of the gear selector lever, the speed of the vehicle and the position of the accelerator pedal.
The selector lever has six positions and is equipped with a lock button to avoid inadvertent selection of the wrong gear.

Button must be pressed to move the selector lever.

⬆ Button need not be pressed to move the selector lever.

Selector positions

P-PARK

This position locks the transmission to prevent the vehicle from moving. The engine can be started in this position.
Never move the lever to the "P" position while the vehicle is moving.

R-REVERSE

Move the lever to this position only after the vehicle has come to a complete stop.

N-NEUTRAL

In this position the transmission is disengaged. It is the same as the neutral position of a manual transmission and should be used when the vehicle is stationary for an extended length of time during driving, such as in a traffic jam.

CAUTION

Do not shift to the "N" position while travelling as the engine brake will be made inoperative.

D-DRIVE

This position is used for most city and highway driving. Automatic shifting will step to maximum speed.

To protect the automatic transmission, a speed of 150 km/h (93 mph) should not be exceeded while the overdrive control switch is pressed.

2-SECOND

This position is for extra power when driving up moderately steep hills, and for engine braking when descending moderately steep grades.

To prevent engine damage, always select the appropriate gear. A speed of 95 km/h (59 mph) should not be exceeded in 2nd gear.

A change from D to 2 should not be made if the driving speed exceeds 90 km/h (56 mph).

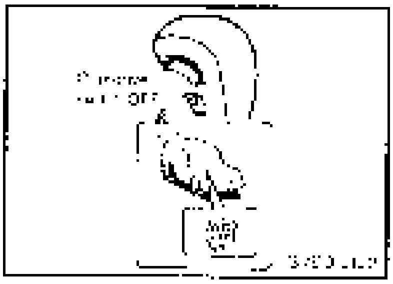
L-LOW

This position is for driving up very steep hills and for engine braking to the speed when descending steep grades.

To prevent engine damage, always select the appropriate gear. A speed of 50 km/h (30 mph) should not be exceeded in 1st gear.

A change from 2 to L should not be made if the driving speed exceeds 50 km/h (30 mph).

OVERDRIVE CONTROL SWITCH



Automatic shifting will be done from 1st gear through 4th gear if the selector lever is set in "D" when the overdrive control switch is not pressed. If the switch is pressed, automatic shifting will be from 1st gear through 3rd gear. Depressing the overdrive control switch during high speed driving will allow effective use of 4th gear and result in more economical driving. However, because it allows the shifting to 4th gear during driving up hill or down hill, which would decrease the driving ability or the engine braking effectiveness, press the overdrive control switch at these times.

Operation

Before selecting a gear with the engine running and the vehicle stationary, either engage the parking brake or depress the service brake.

Because the vehicle will begin to move as soon as the gear is engaged, especially when the engine speed is high, the brakes should only be released when you are ready to drive away.

CAUTION

To prevent sudden acceleration never race the engine when shifting from the "P" or "N".

Passing acceleration

For quick acceleration when passing, depressing the accelerator pedal all the way to the floor will cause the transmission to automatically shift from 4th gear to 3rd gear, from 3rd gear to 2nd gear or from 2nd gear to 1st gear in accordance with the driving speed at the time, without having to move the selector lever from "D" to "2".

Waiting

For short waiting periods such as at traffic lights, the vehicle can be left in gear and held stationary with the service brake.
For longer waiting periods with the engine running, the selector lever should be set in the "N" position.

CAUTION

Never hold the vehicle stationary while in gear on a hill with the accelerator; always apply the parking brake and/or service brake.

Parking

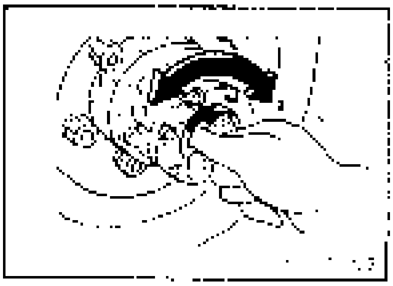
[illegible] fully engage the parking brake [illegible] the selector lever in "P".
If you are going to leave the vehicle unattended, be sure to always turn off the engine and remove the ignition key.

Free wheeling hubs

If this vehicle is equipped with free wheeling hubs, they are located on the front wheels.
By setting the free wheeling hubs to the "FREE" position when the shift lever is in the "2H" position, the drive power of the front wheels can be [illegible], thus resulting in more economical [illegible].
By setting the free wheeling hubs to the "LOCK" position when the shift lever is in either the "4H" or the "4L" position, the drive power of the transfer [illegible] transmitted to the front wheels.

Manual free wheeling hubs

The hubs are set in either the "FREE" position or the "LOCK" position by turning the handle.

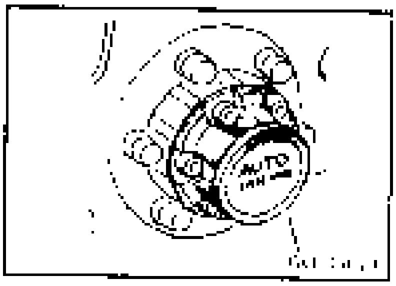


1. FREE
   This position is for two wheel drive.
2. LOCK
   This position is for four wheel drive.

CAUTION

If four wheel drive is to be used, both the left and right free wheeling hubs must be set to the "LOCK" position. Do not attempt to drive the vehicle with the transfer shift lever in either the "4H" or "4L" position if the free wheeling hubs are in the "FREE" position.
If the setting of the free wheeling hubs is to be changed after extended use of the brakes (such as for descending a long slope), allow them to cool first. The free wheeling hubs can become extremely hot and could cause severe burns.

Automatic free wheeling hubs



[illegible]

TO LOCK THE HUBS:

[illegible]

TO UNLOCK THE HUBS:

[illegible]

[illegible]

For rear-wheel drive on roads in good condition, the automatic free-wheeling hubs should be unlocked.
If changing from four-wheel drive to rear-wheel drive is to be done intermittently, it is possible to leave the automatic free-wheeling hubs locked. If this is done, the change to four-wheel drive can be made while driving without stopping the vehicle. The automatic free-wheeling hubs will remain locked during rear-wheel drive if the transfer shift lever is moved to "2H" during driving.

CAUTION

(1) Even if automatic free-wheeling hubs are left locked during rear-wheel drive, they will be unlocked if the vehicle is reversed during starting on an uphill grade, a U-turn, etc. If this happens, the transfer shift lever cannot be moved to the "4H" position during driving; the vehicle must first be completely stopped.

(2) If, during four-wheel drive operation, the vehicle becomes stuck and a back-and-forth rocking motion is used to free it, the automatic free-wheeling hubs may become unlocked because of the backward movement. If the engine is subsequently revved up and the clutch let out suddenly, the automatic free-wheeling hubs may not lock, and a noise of grinding gears will be heard; however, this is not a malfunction. In addition, if in this condition the accelerator pedal is released slightly and then depressed again, the automatic free-wheeling hubs will lock, but when they do, the vehicle may jerk forward suddenly. Depress the accelerator pedal gradually, and let the clutch out slowly and smoothly.

(3) The automatic free-wheeling hubs may emit unusual noises when driving at "2H" in cold weather; if this happens, drive for a while in four-wheel drive to warm up the transfer and then shift to "2H".

(4) When used while turning, it may not come free in some cases. If this happens, drive straight ahead and try again.

(5) It may not come free in some cases when temperatures are low; therefore, in cold weather, free immediately after driving in 4-wheel drive. If this does not work, try again using one of the following methods.

- o Drive for a while (approx. 10 minutes) in 4-wheel drive and try again.
- o Drive straight forward slowly for 1 to 2 meters (3.3 to 6.6 ft.) and then back up, repeating this procedure several times.

(6) It is very important that any repairs of the automatic freewheeling hubs be done correctly. Have any such repairs done only at a GALLOPER dealer.

Correct four wheel drive operation

By shifting to four wheel drive, the front axles of the vehicle are rigidly connected with each other. This improves the traction characteristics. When turning sharp corners or moving forward and backward repeatedly, however, the drive line is stressed, which is felt as a braking effect. A four-wheel drive vehicle can accelerate more quickly and smoothly.
However, note that the braking distance is not shorter than that of a two wheel drive vehicle. When using four wheel drive on rough roads (snow, mud, sand, etc.), it is important to operate the vehicle correctly.

NOTE

After driving on rough roads, check each part of the vehicle and wash it thoroughly with water. Refer to the "Vehicle care" section.

Driving on snowy or icy roads

Set the transfer shift lever to "4H" or "4L" in accordance with the road conditions, and then gradually depress the accelerator pedal for a smooth start.

NOTE

(1) The use of snow tyres on all wheels is recommended.
(2) Maintain a safe distance between vehicles, avoid sudden braking, and use engine braking (downshifting).
(3) Avoid sudden braking, sudden acceleration and sharp turning; such operations could cause skidding and spinning.

Driving on sandy or muddy roads

Set the transfer shift lever to "4L", and then gradually depress the accelerator pedal for a smooth start. Keep the pressure on the accelerator pedal as constant as possible, and drive at low speed.

NOTE

(1) Avoid sudden braking, acceleration and turning; such operations could result in the vehicle becoming stuck.
(2) If it is necessary to drive in extremely muddy conditions, the use of tyre chains is recommended.
(3) If the vehicle becomes stuck, place stones, wood, etc. under the tyres to provide traction and rock the vehicle back and forth to get it loose.

(4) Because the extent of muddy conditions is difficult to judge and the vehicle could become bogged down very deeply, operation should be at a low speed. If possible, get out of the vehicle and check the conditions ahead before proceeding.

CAUTION

Driving over roads in coastal areas or roads on which anti-skid preparations have been spread can cause rust on the vehicle; wash the vehicle thoroughly as soon as possible after such use.

Climbing sharp grades

Set the transfer shift lever to "4L" to make most use of the engine torque.

(1) Choose as smooth a slope as possible.

(2) The climbing ability is a 35% grade on dry pavement.

(3) Before attempting to drive up the slope, walk up it to confirm that the vehicle can handle the grade.

Descending sharp grades

Set the transfer shift lever to "4L", use the engine brake (downshifting), and descend slowly.

(1) When descending a sharp grade, if the brakes are applied suddenly because of an obstacle encountered, control of the vehicle could be lost. Before descending the slope, walk down it and confirm the path.

(2) Before descending a grade, it is necessary to choose the appropriate gear. Avoid changing gears or depressing the clutch while descending the grade.

Turning sharp corners

When turning a sharp corner in four-wheel drive, the same thing that happens when doing so with the brake applied may occur. This is called tight corner braking, and results from each of the four tyres being at a different distance from the corner. The phenomenon is peculiar to four wheel drive vehicles. If this occurs, either straighten out the steering wheel or change to two-wheel drive.

Crossing a stream

Four wheel drive vehicles are not necessarily waterproof. If the electrical circuits become wet, further operation of the vehicle will be impossible; therefore, avoid crossing streams unless absolutely necessary. If crossing a stream is unavoidable, use the following procedure:

(1) Cross at a place where the water is less than 50 cm (1.6ft.) deep.

(2) Set the transfer shift lever to "4L".

(3) Drive slowly at a speed of approximately 5 Km/h (3 mph) to avoid splashing too much water.

CAUTION

Do not attempt to cross a stream at a place where the water is more than 50 cm (1.6ft.) deep.

Do not change gears while crossing the stream.

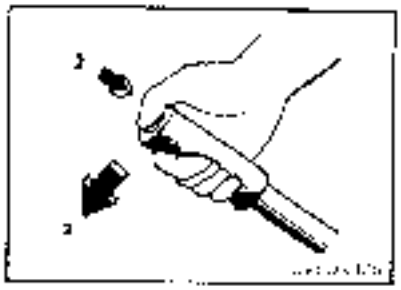
Frequent crossing of streams can adversely affect the life span of the vehicle, consult a GALLOPER dealer and take the necessary measures to prepare, inspect, and repair the vehicle.
After crossing a stream:
o Inspect the brakes to be sure they are functioning properly. If the brakes are wet and not functioning properly, dry them out by driving slowly while lightly depressing the brake pedal.
o Inspect each part of the vehicle carefully. Refer to the "Inspection and maintenance following rough road operation" section.

Inspection and maintenance following rough road operation

After operating the vehicle in rough road conditions, be sure to perform the following inspection and maintenance procedures.
1) Check that the vehicle has not been damaged by rocks, gravel, etc.
2) Carefully wash the vehicle with water. Drive the vehicle slowly while lightly depressing the brake pedal in order to dry out the brakes. If the brakes still do not function properly, contact a GALLOPER dealer as soon as possible to have the brakes checked.
3) If a stream has been crossed, check the engine, transmission, and differential oil. If the oil is milky or cloudy, water has become mixed in with it, and it must be replaced with new oil.

Parking brake

To park the vehicle, first bring it to a complete stop, fully engage the parking brake and then set the gearshift lever 1st or reverse for vehicles with manual transmission. Move the transfer shift lever to any position except "N".
1. To apply, pull the lever up without pushing the button at the end of hand grip.

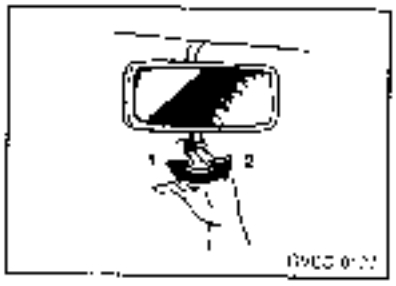


2 Parking brake release lever
3 Parking brake lever

CAUTION

Before driving, be sure that the parking brake is fully released and brake warning lamp is off.

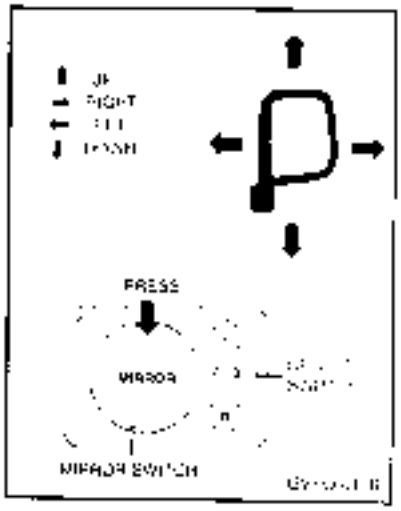
Inside rear-view mirror



The lever at the bottom of the mirror can be used to adjust the mirror to reduce the glare from the headlights of cars behind you during night driving.

1 Normal
2 Anti-glare

Outside rear-view mirrors

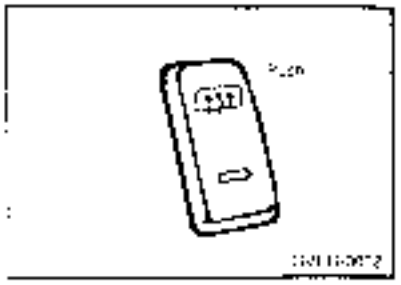


Place the select switch to the same side as the mirror whose adjustment is desired.

L – Left outside mirror adjustment
R – Right outside mirror adjustment

Press the mirror switch to adjust the mirror.

Outside rear-view mirrors heater * (if installed)



The outside rear-view mirrors heater is activated in connection with the rear window defroster. So, to heat the outside rear-view mirrors, just push the switch for rear window defroster. The rear-view mirror glass will be heated for defrosting or defogging and will give you improved rear vision in all weather conditions. Push the switch again to turn the heater off. The outside mirrors mirror heater automatically turns itself off after 10 seconds.

Vehicle care

Washing
Waxing
Polishing
Wheels
Chrome parts
Plastic and rubber part
Damaged paint
Tar
Window glass
Wiper blades
Engine compartment
Upholstery and interior
Tyre care

In order to maintain the appearance of your vehicle, it is necessary to perform regular maintenance using the proper procedures. Be sure to maintain your vehicle in compliance with any relevant environmental pollution [illegible] regulations.
Carefully select the materials to be used for washing, etc., to be sure that they contain no corrosive [illegible]. If in doubt, contact a [illegible] dealer for assistance in the selection of these materials.

Washing

Chemicals contained in the rain and dust thrown up from the road surface can damage the paint and body of your vehicle due to prolonged contact.
Frequent washing and waxing is the best way to protect your vehicle from this damage. This is also effective in protecting it from environmental elements such as rain, snow, salt, etc.
Do not wash the vehicle in direct sunlight. Park the vehicle in the shade and spray it with water to remove dust. Next, using an ample amount of clean water and a vehicle washing brush or sponge, wash the vehicle from top to bottom.
Use a mild vehicle washing soap if necessary. Rinse thoroughly and wipe dry with a soft cloth. After washing the vehicle, carefully clean the joints and flanges of the doors, hood, etc., where dirt is likely to remain.

NOTE

(1) Try to refrain from using a car wash with brushes. They scratch the paint and [illegible]. Scratches will be especially visible on darker colored vehicles.
(2) Do not spray or splash water onto the electrical components in the engine compartment, because this may adversely affect starting.

Waxing

Waxing the vehicle will help prevent the adherence of dust and other elements on the paintwork. Apply a wax solution after washing the vehicle, and apply wax at intervals of every three months.
Do not wax your vehicle in direct sunlight. You should wax after the surfaces have cooled.
Waxes containing rich abrasive compounds should not be used.
Such waxes remove rust and stain effectively from the paintwork but they are harmful to the luster of the painted surface since they also scratch the coating.
Further, they are detrimental to glossy surfaces such as grille, garnish, molding, etc.
Do not use petrol or paint thinners to remove road tar or other contamination from the painted surface.

Polishing

The vehicle should be polished if the paintwork has lost its original [illegible]. [illegible] polishing compound [illegible]. Polishing these parts will [illegible].

Wheels

The wheels are [illegible] vehicle [illegible].
Clean aluminum wheels with a cleaner designed for aluminum wheels and apply an anticorrosive protector again. This is especially important in winter in areas where salt or other chemicals are used on the roads, because aluminum can be easily damaged by such chemicals.

Chrome parts

In order to prevent spots and corrosion of chrome parts, wash with water, dry thoroughly and spray a special protective coating. This should be done more frequently in the winter.

Plastic and rubber parts

Use a soft cloth and wash with water. If necessary, a cleaning agent specially designed for plastics can be used. If [illegible] battery [illegible] comes in contact with these parts, wash promptly with water and then use [illegible] to remove the stains [illegible].

Damaged paint

Small chips and scratches in the paint coat should be touched up as soon as possible with paint pencil or spray paint to prevent corrosion. Check body areas facing the road and the tyres especially carefully for damage to the paint coat caused by flying stones, etc. The paint code number for your vehicle can be found on the vehicle information plate in the engine compartment.

Tar

If tar becomes adhered to the vehicle, use special tar remover to remove it as soon as possible. If the tar leaves a stain, polish the affected area.

Window glass

The window glass can normally be cleaned with [illegible] sponge and water. Glass cleaner can be used to remove oil, grease, road film, etc. After washing the glass, wipe dry with a clean, dry, soft cloth. Never use the same cloth to wipe the window glass as was used to wipe the paintwork; wax from the painted surfaces could adhere to the glass and reduce its transparency and visibility.

Wiper blades

Use a soft cloth and glass cleaner to remove grease, dead insects, etc. from the wiper blades. Replace the wiper blades when they no longer wipe properly.

Engine compartment

Clean the engine compartment at the beginning and end of winter. Pay particular attention to the flanges, crevices and peripheral parts where dust containing road chemicals and other corrosive materials might collect.

If salt and other chemicals are used on the roads in your area, clean the engine compartment at least every three months.

Upholstery and interior

To maintain the value of your new vehicle, handle the upholstery carefully and keep the interior clean.

Use a vacuum cleaner and brush to clean the seats. If stained, vinyl and synthetic leather should be cleaned with an appropriate cleaner, and cloth fabrics can be cleaned with either upholstery cleaner or a 1% solution of neutral detergent in lukewarm water.

Clean the carpeting with a vacuum cleaner and remove any stains with carpet shampoo.

Oil and grease can be removed by carefully dabbing with a clean colorless cloth and benzine or spot remover.

Tyre care

For driving safety, and in order to obtain the maximum useful life of the tyres, the following points should be observed. For information concerning inspection, air pressure, and rotation of the tyres, refer to the part which deals with wheels in the section of this manual entitled "Do it yourself".

Tyre air pressure

The air pressure of the tyres must always be maintained in accordance with the specifications, and should be measured when the tyres are cool.
If a tyre has been warmed up by driving, the inflation pressure is increased due to heat expansion. Therefore, never discharge air from a warm tyre, because the inflation pressure can fall below the specified value (cold tyre).
The inflation pressure of the tyres (include the spare tyre) must be checked at least every 14 days, in their cold state.
If the inflation pressure is too low, the tyre can become severely heated, causing damage to the inside. At high speeds, this can lead to separation of the tyre treads, and what is more, cause bursting of the tyre. Hidden tyre damage cannot be remedied by correcting the tyre inflation pressure later on. If any changes in driving conditions (speed and/or load weight) occur, the air pressure of the tyres must meet the specifications which apply to the new driving conditions. If the vehicle is going to be driven under varying conditions (e.g. high speed driving, varying load weight, etc.), the air pressure must be adjusted in order to meet the highest specifications of the conditions under which the vehicle is driven (high speeds and maximum load weight).

Load weight and driving speed

Remove any luggage, etc., which is not necessary, from the vehicle. The load weight placed on the roof or towed in a trailer also should not be excessive.
Correctly adjusting the air pressure of the tyres before driving under maximum load weight conditions and before driving any distances is especially important.

Tyre replacement

Tyres which do not meet the size specifications must not be used. Replacement of the tyres must be made as a set of the two front tyres, the two rear tyres, or all four tyres.

CAUTION

Do not mix different type of tyres (i.e., bias-ply tyres and radial tyres) because it may affect maneuverability of your vehicle and result in loss of control.
Consult a GALLOPER dealer for necessary information.

Kerb parking

If the tyres strike a kerb or some other parking barrier, they might be damaged, and this damage could become a source of extreme danger when the vehicle is subsequently driven at high speed. If the vehicle is to be driven over a kerb or any other such barrier, it should be driven slowly and at an appropriate angle to the kerb or barrier.
Oil, fuel and grease cause damage to tyres because of their rubber equipment.
Tyres damaged at high speeds are not always easily recognised. Periodically check tyres for damage such as foreign matter, scrapes, cuts, cracks and swelling of the side walls. Any such damage must be immediately examined by an expert. If it is impossible to repair the tyre, or there is uncertainty about its condition, replace the tyre.

Tread depth

Check the tread depth periodically. The more the tread wears, the greater the chance of aquaplaning. (Pay attention to the minimum tread depth as specified by law.)
Never use used tyres whose history is not known. Tyres deteriorate even when they have not been used at all, or used only a little. Even your own spare tyre must be used only in an emergency if they are 6 years old or older, and the vehicle must be driven cautiously.

Tyre storage

Storage of tyres should be in a dark, well ventilated place. Tyres not mounted on rims should be stored vertically. Be sure that the tyres are not in contact with fuel, oil, grease etc.

MEMO

During cold weather

Engine oil
Engine coolant
Battery
Washer fluid
Wiper blades
Ventilation slots
Door locks
Parking brake
Washing the vehicle
Weatherstripping
Snow tyres
Tyre chains
Additional equipment

Engine oil

The engine oil can become very thick at low temperatures, thus making it difficult to start the engine.

Change to the thinner oil designed for winter use before the start of cold weather. For the appropriate oil viscosity refer to the "Do it yourself" section.

Engine coolant

If the temperature in your area drops below freezing, there is the danger that the coolant in the engine or radiator could freeze and cause serious damage to the engine and/or radiator. Be sure to add a sufficient amount of antifreeze to the coolant to prevent it from freezing.

The antifreeze solution which is used at the factory is intended to act in the cooling system and provides protection against freezing temperatures as low as approximately -30 °C (-22 °F). The concentration should be checked before the start of cold weather and antifreeze added to the system if necessary.

Battery

The capacity of the battery is reduced at low temperatures. This is an inevitable result of its chemical and physical properties. This is why a very cold battery, particularly one that is not fully charged anyway, will only deliver a fraction of the starter current which is normally available.

It is recommended that you have the battery checked by a dealer before the start of cold weather and, if necessary, have it charged. This not only ensures reliable starting, but a battery which is kept fully charged also has a longer life.

Washer fluid

To ensure proper operation of the windscreen washer when it is low temperatures, antifreeze should be added to the washer fluid at a ratio of one part antifreeze to one part water.

Wiper blades

Before operating the wipers, check the wiper blades to ensure that they are not frozen to the windscreen or rear window. Trying to operate the front or rear wipers when they are frozen to the windscreen can damage the wiper motor. Refrain from operating the wipers until the ice has melted and the wipers are free.

Ventilation slots

The ventilation slots in front of the windscreen should be brushed clear after a heavy snowfall so that the operation of the heating and ventilation systems will not be impaired.

Door locks

To prevent the door locks from freezing up, the lock cylinders should be masked with tape etc. when washing the vehicle in cold weather to prevent the entrance of water.

Parking brake

If the outside air temperature is below freezing, park the vehicle with the parking brake off. Put the gear lever (for vehicles with manual transmission) in the reverse gear or lever in the position other than P position and do not engage the parking brake. If the parking brake is engaged and there is moisture on the brake lining, the linings could become frozen to the brake drums, making it impossible to release the parking brake. When parking on a steep slope, turn the front wheels in towards the kerb and chock the wheels.

Washing the vehicle

The salt and other chemicals used for melting snow on roads in winter months can have a detrimental effect on the vehicle body. You should therefore wash the car as often as convenient in accordance with [illegible] instructions. Have a protective coating applied and the underbody checked by a [illegible] dealer before and after the cold weather season.

Weatherstripping

To prevent freezing of the weatherstripping on the doors, bonnet lid, etc., these should be treated with silicone spray.

Snow tyres

The use of snow tyres is recommended for driving in snow and ice. To preserve driving stability, mount snow tyres of the same size and tread pattern on all four wheels.
Snow tyres [illegible] tyres. Snow tyres which do not [illegible] must not be used.

NOTE

The laws and regulations concerning snow tyres [illegible] vary. Find out and follow the laws and regulations in your area.

Tyre chains

If tyre chains are to be used, be sure that they are mounted on the rear wheels.
Use only tyre chains which are designed for use with the tyres and rims on the vehicle, as the incorrect type may [illegible] damage to the vehicle body.
Reduce the speed [illegible] on roads which are free of snow [illegible] the chains to avoid damage to the tyres.

NOTE

The laws and regulations concerning tyre chains vary. Find out and follow the laws and regulations in your area.

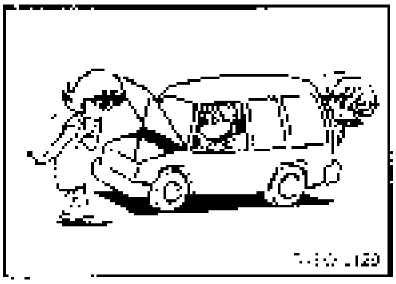
Additional equipment

It is a good idea to carry a shovel and a sheet [illegible] in the vehicle during the winter so that you can clear away snow if you get stuck. A small hand brush for sweeping snow off the vehicle and a plastic scraper for the windscreen and rear window are also useful.

MEMO

Do it yourself

Inspection items
Engine oil
Automatic transmission fluid *
Engine coolant
Battery
Brake fluid
Power steering fluid
Hydraulic clutch
Washer fluid
Wheel condition
Fuel, engine coolant, oil, and exhaust gas leakage
Exterior and interior lamp operation
Headlight washer fluid*
Tyre inflation pressure
Meter, gauge, and indication/warning lamp operation
Steering wheel free play
Clutch pedal free play
Brake Pedal free play
Parking brake lever stroke
Wheel rotation
Hinges and latches lubrication



Take good care of your vehicle at regular intervals in order to preserve the value and appearance as long as possible.
Some maintenance items can be carried out by the owner (do it yourself), while others should be done only by a GALLOPER dealer (periodic inspection and maintenance). This section describes only those items which can be carried out by the owner. In the event a malfunction or other problem is encountered, have it corrected by a GALLOPER dealer. This section contains information on inspection and maintenance procedures that you can do yourself. Follow the instructions and precautions for each of the various procedures.

CAUTION

1. When checking or servicing the inside of the engine compartment, be sure the engine is stopped and has had a chance to cool down.
2. If it is necessary to do work in the engine compartment with the engine running, be especially careful that your clothing, hair, etc., does not become caught by the fan, V-belts, or other moving parts.
3. Improper handling of components and materials used in the vehicle can endanger your personal safety. Consult a GALLOPER dealer for necessary information.

Inspection items

(1) Engine oil
(2) Automatic transmission fluid
(3) Engine coolant
(4) Battery
(5) Brake fluid
(6) Power steering fluid
(7) Clutch fluid (hydraulic clutch only)
(8) Washer fluid
(9) [illegible]
(10) Tyres (inflation pressure, including spare wheel)
(11) Fuel, engine coolant, oil, and exhaust gas leakage
(12) [illegible] operation
(13) [illegible] operation
(14) Steering wheel free play
(15) Clutch pedal free play
(16) Brake pedal free play
(17) Parking brake lever stroke

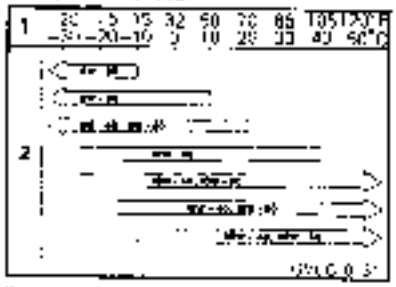
Other

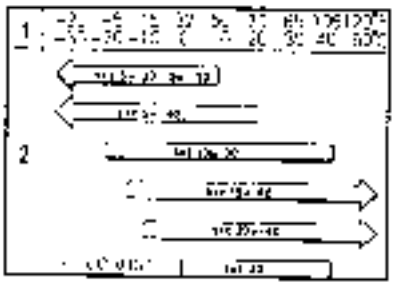
1. [illegible]
   [illegible]
2. [illegible]

NOTE

[illegible]

Engine oil



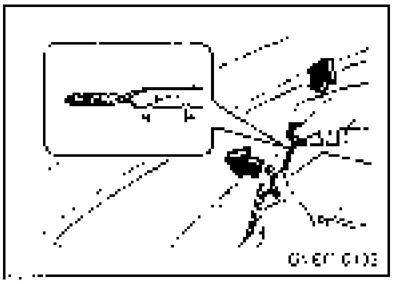


Selection of engine oil

1) Use engine oil conforming to the following API classification:
Gasoline powered vehicle
"FOR SERVICE SA" or higher
Diesel-powered vehicle
"FOR SERVICE CC/CD" or higher
2. Select engine oil of the proper SAE viscosity number according to the atmospheric temperature.

1 - Atmospheric temperature
2 - SAE viscosity No.

Automatic transmission fluid *



The proper amount of automatic transmission fluid is essential to the life and operation of the automatic transmission. Either insufficient or excessive fluid could cause transmission trouble. The following illustration and steps outline the procedure to check the fluid level.

1. Check the fluid level after the vehicle has been driven enough to warm up the transmission fluid.
2. Park the vehicle on a flat level surface and apply the parking brake.
3. With the engine idling and the brake pedal fully depressed, move the transmission selector lever through all the positions from "P" to "L", stopping momentarily at each position.

(4) Move the selector lever to "N".

(5) Remove the dipstick and wipe it with a clean lint-free cloth.

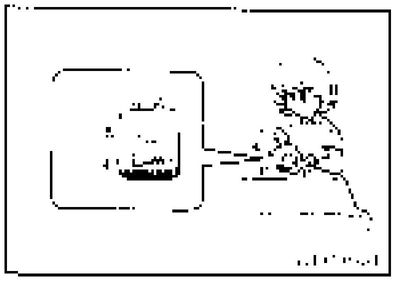
(6) The fluid level should always be between the two marks on the dipstick.

"DIAMOND ATF SP-II" automatic transmission fluid should be used for automatic transmission.

CAUTION

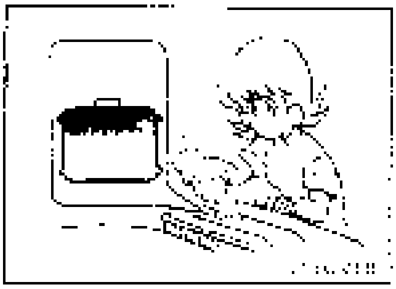
Do not spill the fluid onto the exhaust pipe. Hold a cloth when you inspect the fluid level after driving. This will help avoid damage to [illegible]

Engine coolant

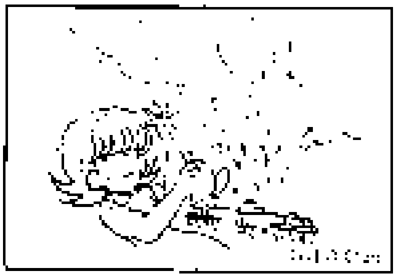


A see-through coolant reserve tank is located in the engine compartment. The coolant level in this tank should be kept between the "LOW" and "FULL" marks when measured while the engine is warm or at idling.

The cooling system is a closed system and normally the loss of coolant should be very slight. A noticeable drop in the coolant level could indicate leakage. If this occurs, have the system checked at a GALLOPER dealer as soon as possible.



[illegible]



CAUTION

Do not open the reserve tank lid or radiator cap while the engine is hot.
The coolant system is under pressure and any hot coolant escaping could cause severe burns.

Antifreeze

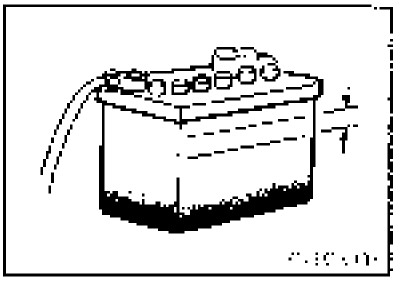
[illegible]

Minimum ambient temperature	-1? °C	-20 °C	-30 °C	-45 °C
Antifreeze concentration	30 %	40%	[illegible]	50%

CAUTION

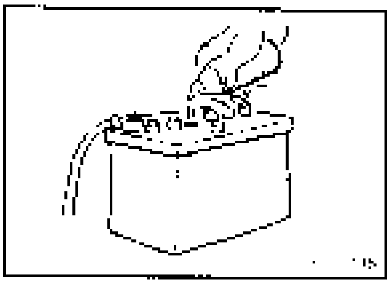
For effective anticorrosion and antifreeze performance, keep the antifreeze concentration within the range of 30 to 60%. Concentrations exceeding 60% will result in a reduction of cooling performance, thus adversely affecting the engine.

Battery



The condition of the battery is very important for quick starting of the engine and proper functioning of the vehicle's electrical system. Regular inspection and care are extremely important in cold weather.

Checking battery electrolyte level



The electrolyte level must be between the UPPER and LOWER marks on the outside of the battery.
Replenish with distilled water as necessary. The inside of the battery is divided into six compartments; remove the cap from each compartment and fill to the UPPER mark.
Do not overreplenish beyond the UPPER mark because spillage during driving could cause damage.
Check the electrolyte level at frequencies depending on the operating conditions.
If the battery is not used, it will discharge by itself with time. Check it once every four weeks and charge with low current as necessary.

Disconnection and connection

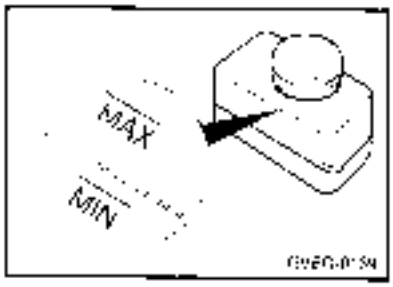
Never disconnect the battery while the engine is running, as this could damage the vehicle's electrical components. First disconnect the negative (-) terminal and then the positive (+) terminal. When connecting the battery, first connect the positive (+) terminal and then the negative terminal.

CAUTION

1. Keep the terminals clean. After the battery is connected, apply terminal protection grease. To clean the terminals, use lukewarm water.
2. Never short circuit the battery; doing so could cause it to overheat and be damaged.
3. Do not smoke or bring an open flame near the battery; doing so could ignite the explosive gas generated by the battery.
4. The battery electrolyte is extremely caustic. Do not allow it to come in contact with your eyes, skin, clothing, or the painted surfaces of the vehicle. Spilled electrolyte should be flushed immediately with ample amounts of water. Irritation to eyes or skin from contact with electrolyte requires immediate medical attention.
5. If the battery is to be quick charged, first disconnect the battery cables.

6. In order to prevent a short circuit, be sure to disconnect the negative (-) terminal before doing anything else.
7. Keep it out of the reach of children.

Brake fluid



Check the brake fluid level in the reservoir. The brake fluid level must be between the "MAX" and "MIN" marks on the reservoir. The fluid level falls slightly with wear of the brake pads, but this does not indicate any abnormality.

If the brake fluid level falls noticeably in a short length of time, it indicates a leak from the brake equipment. If this occurs, have the vehicle checked at a GM DEALER dealer.

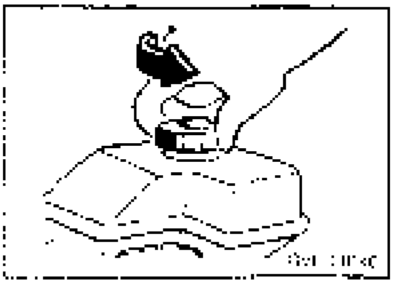
Use SAE J1703 or FMVSS116 DOT3 or equivalent type brake fluid. The brake fluid is hygroscopic. Too much moisture in the brake fluid will adversely affect the brake equipment, reducing the brake performance. In addition, the brake fluid reservoir is equipped with a sealed cap to prevent the entrance of air, and the cap should not be removed.

On a vehicle with a brake fluid warning lamp, the brake fluid level is monitored by a float. When the brake fluid level falls below the "MIN" mark, the brake fluid warning lamp lights up.

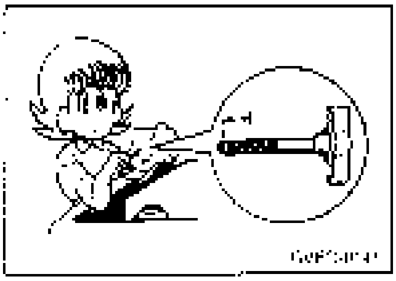
CAUTION

(1) Use only the specified brake fluid. Also, the additives in different brands may result in a chemical reaction when mixed together, so avoid mixing different brands if possible.
(2) Brake fluid is toxic and corrosive.

Power steering fluid

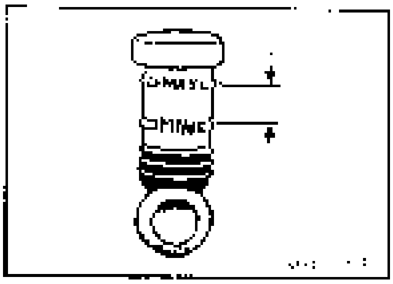


Check the fluid level in the reservoir with the engine switched off. Remove the reservoir cap; the level gauge is attached to the bottom of the cap.



The level should be between the "MAX" and "MIN" lines on the level gauge. Use DEXRON II or equivalent.

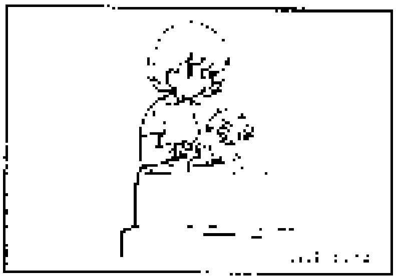
Hydraulic clutch



The clutch fluid reservoir is located in the rear of the engine compartment. The fluid level should always be between the "MAX" and "MIN" marks on the reservoir.
Use only SAE J1703 or DOT3 brake fluid.

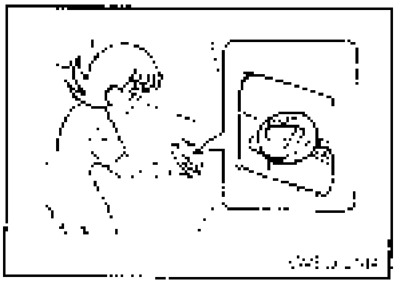
Washer fluid

Windscreen washer fluid



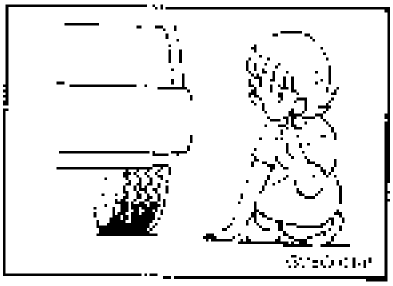
Check the washer fluid level in the [illegible] If the level is low, [illegible] with washer fluid.

Rear window washer fluid

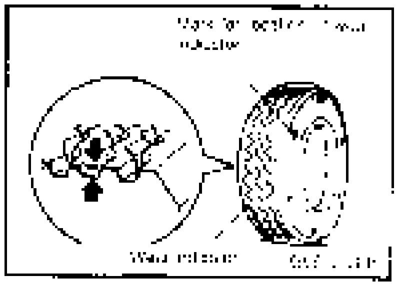


Remove the lid from the top of tank inside wheelhouse.
Check the washer fluid level in the container.
If the level is low, replenish the container with washer fluid.

Wheel condition



Check the tyres for cuts, cracks and other damage. Replace the tyres if there are deep cuts or cracks. Also, check each tyre for pieces of metal or stone.
The use of worn tyres can be very dangerous because of the greater chance of skidding or hydroplaning. The tread depth of the tyres must exceed 1.6mm (0.06 in) in order for the tyres to meet the minimum requirement for use.



If there are tread wear indicators on the tyres, they will appear in six places on the surface as the tyre wears, thereby indicating that the tyre no longer meets the minimum requirement for use. When these wear indicators appear, the tyres must be replaced with new ones. Confirm that the wheel nuts are tightened sufficiently. Refer to the section of this manual entitled 'Wheels' for information concerning replacement of the tyres.

Fuel, engine coolant, oil, and exhaust gas leakage

Look under the body of your vehicle and check for fuel, engine coolant, oil, and exhaust gas leaks. If leaks are evident, take your vehicle to a GALLOPER dealer for inspection.

Exterior and interior lamp operation

Operate the light switch and combination switch to confirm that all lamps are functioning properly.
If the lamps do not go on, the probable cause is a blown fuse or defective lamp bulb. Check the fuses first. If there is no blown fuse, check the lamp bulbs.

For information regarding the inspection and replacement of the fuses, refer to the section entitled "Emergency measures".
If the fuses and bulbs are all OK, take the vehicle to a GALLOPER dealer for inspection.

Headlight washer fluid * (If Installed)

Check the headlight washer fluid level in the container inside the engine compartment. If the level is low, replenish the container with washer fluid.
Check the condition of the spray nozzles periodically.

Tyre inflation pressure

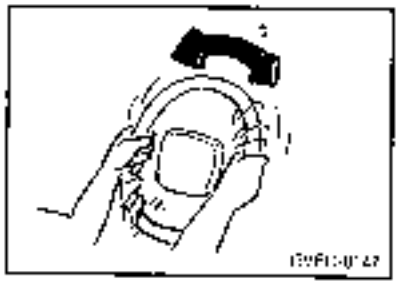
Tyre size	Pressure kg/cm² (kPa)
P215/75R15	
Front	1.8 (180)
Rear	1.8 (180)
P235/75R15	
Front	1.8 (180)
Rear	2.0 (200)
P265/70R15	
Front	1.8 (180)
Rear	2.0 (200)
LT225/75R16	
Front	2.7 (270)
Rear	2.7 (270)
P275/60R15	
Front	1.8 (180)
Rear	2.0 (200)

Check the tyre inflation pressure of all the tyres while they are cold. If insufficient or excessive, adjust to the specified value. After the tyres inflation pressure has been adjusted, check the tyres for damage and air leaks.
Be sure to put rubber caps on the valves.

Meter, gauge, and indication/ warning lamp operation

Run the engine to check the operation of all meters, gauges, and indication/ warning lamps.
If there is anything wrong, take the vehicle to a GALLOPER dealer for inspection.

Steering wheel free play

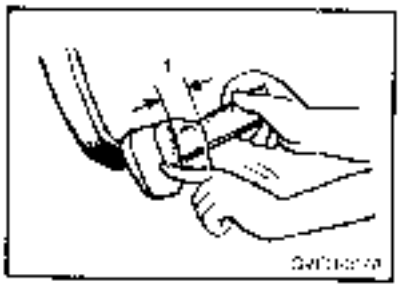


Check the free play of the steering wheel by moving it slightly in each direction (from the straight ahead position) until resistance is felt.
On vehicle equipped with a power steering, check the steering wheel free play while the engine is idling.
The free play at the circumference should not exceed the standard value.

1 - Free play
50 mm (2 in.)

If the steering wheel free play exceeds the standard value, have the steering wheel adjusted at a GALLOPER dealer.

Clutch pedal free play

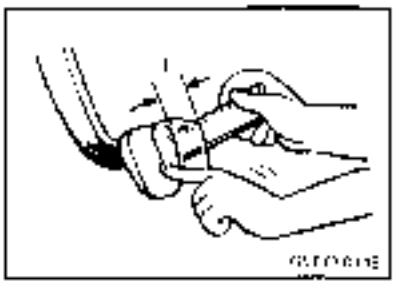


Press down on the clutch pedal with your fingers until initial resistance is felt.
This distance should be within the standard range.

1 - Free play
6 to 13 mm (0.2 to 0.5 in.)

If the clutch pedal free play is not within the standard range, have the clutch pedal adjusted at a GALLOPER dealer.

Brake pedal free play

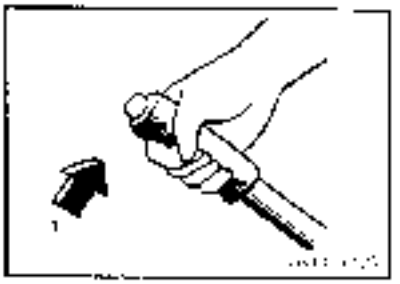


With the engine stopped, depress the brake pedal several times, and then press down on the pedal with your fingers until initial resistance is felt. The distance should be within the specified range.

1 Free play
3 to 8mm (0.1to 0.3in)

If the brake pedal free play is not within the standard range, have the brake pedal adjusted at a GALLOPER dealer.

Parking brake lever stroke

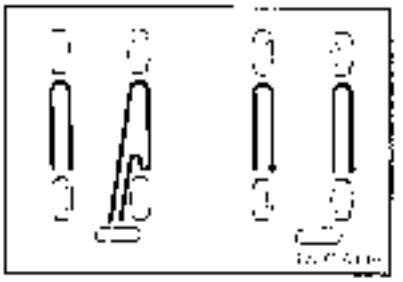


Pull the parking brake lever all the way up to check the number of clicks that the ratchet makes. One click represents a lever movement of one notch.
The lever should make the specified number of notches for full brake application.

Parking brake lever stroke: 4 to 6 notches

If the parking brake lever stroke is not within the standard value range, have the brake lever adjusted at a GALLOPER dealer.

Wheel rotation



Periodically rotate the wheels as shown in the illustration. To make sure that the tyres wear evenly as possible and for longer tyre life, rotate the wheels in the sequence illustrated.
Every time a wheel is removed, have the balance of the wheel properly adjusted.

CAUTION

If the spare wheel is of a different type from the other four wheels, the four wheel rotation method (excluding the spare wheel) should be used.

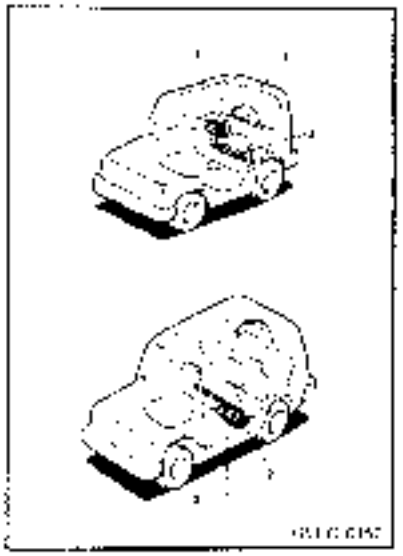
Hinges and latches lubrication

Check all latches and hinges and lubricate if necessary by first cleaning and then apply multi-purpose grease.

MEMO

Emergency measures

Tools and jack

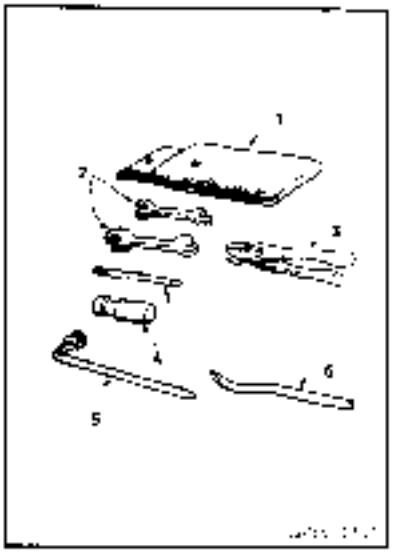


The storage location of the tools and jack should be remembered in case of a sudden need.

Location

1 - Tools
2 - Jack
3 - Jack handle

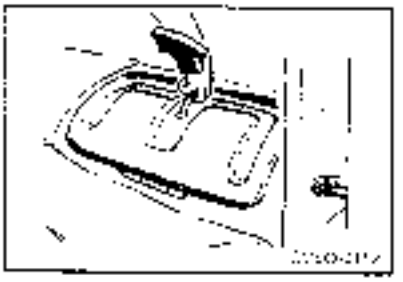
Tools



1 - Tool bag
2 - Wrench
3 - Pliers
4 - Screwdriver
5 - Wheel nut wrench
6 - Bar

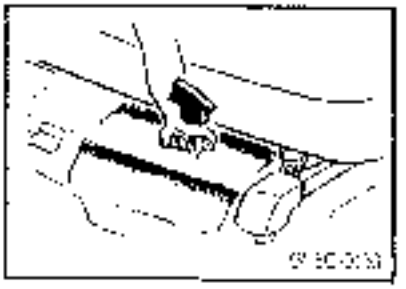
Jack

To remove (Short wheel based models)

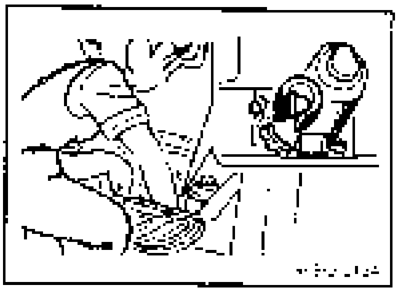


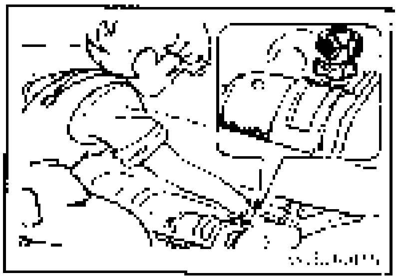
Open the ar

To remove (Long wheel based models)



Open the ar

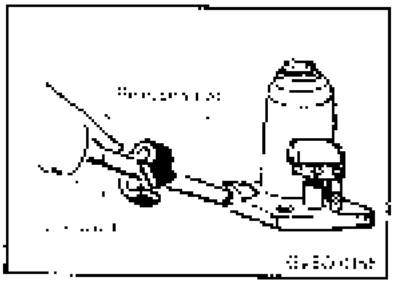




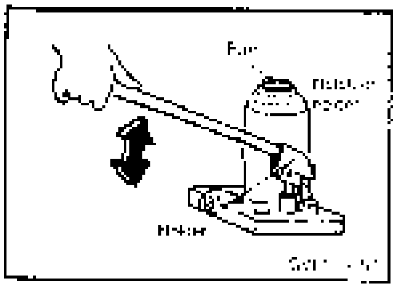
Remove the securing bolt and then take out the jack.

Jacking up the vehicle

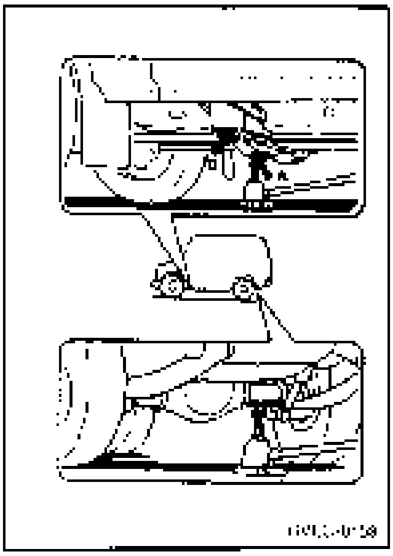
The method for jacking up the vehicle should be here explained in order to change a tyre in the event of a puncture and in order to install tyre chains. After stopping the engine and applying the parking brake on a flat, solid surface, also use chocks to hold the wheels.



Take out the jack and jack handle. Using the jack handle, turn the release valve clockwise until it reaches a stop.



Fit the jack handle into the holder and align the groove of the jack handle with the notch of the holder.
Move the jack handle up and down to raise the ram until just before the jack contacts the jacking point of the vehicle.

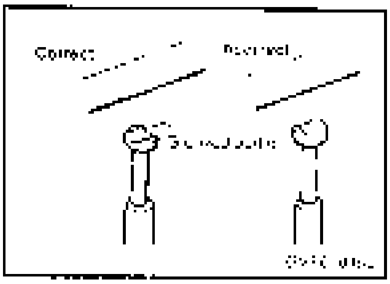


Position the jack with the jack handle. Position it only at the specified points indicated in the illustration; use of the jack at other points could damage the vehicle body.

Moving the jack handle up and down, raise the piston.

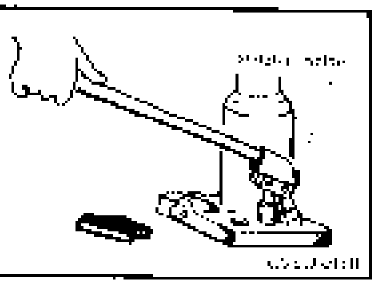
NOTE

To jack up the front of the vehicle, normally position the jack at position A. However, if the ground clearance is insufficient at position A, use position B.



When jacking up the front of the vehicle, turn the tip of the jack so that the grooved portion properly meets the designated point.

Using the jack handle, turn the release valve counterclockwise slowly to lower the ram and then take out the jack.

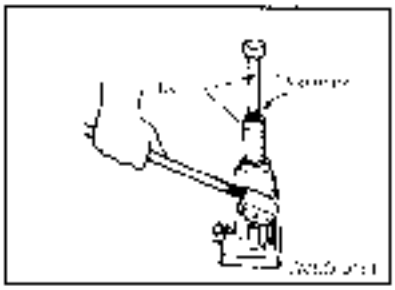


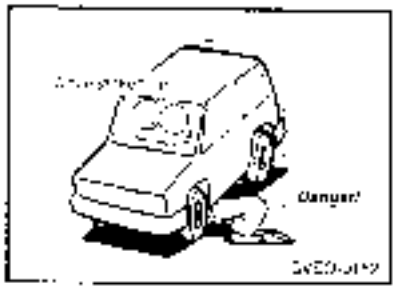
NOTE

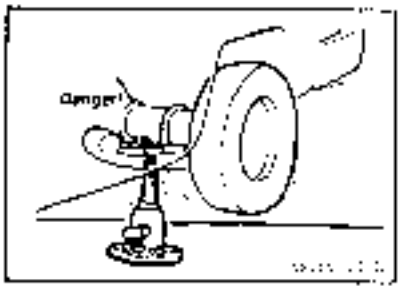
(1) Occasionally, when the front part of the vehicle is raised up, the grooved portion of the designated position may come off. When this happens, lower the vehicle to lower the ram.

(2) When the jack is difficult to remove by hand, insert the jack handle into the holder and catch the jack handle's tip onto the holder notch and secure it there. Then pull the jack handle and remove the jack.

Press the piston down all the way, and turn the release valve clockwise as far as it stops.







CAUTION

(1) Use only the jack included with the vehicle and use it only for changing a wheel and for installing tyre chains.

(2) Position the jack on a hard, level surface.

(3) If the release valve is loosened by turning it 2 or more times in the counterclockwise direction, the jack's oil will leak and the jack cannot be used.

(4) This jack is hydraulic, and the ram is a two stage type. When both rams are raised and the stop mark of the upper ram becomes visible, stop jacking immediately.

(5) Some models are equipped with jacks which have no stop mark. To extend this type of jack to its full length, continue jacking until the jack stops and can be extended no further.

(6) When jacking up the vehicle, be sure that there is no one in or under the vehicle.

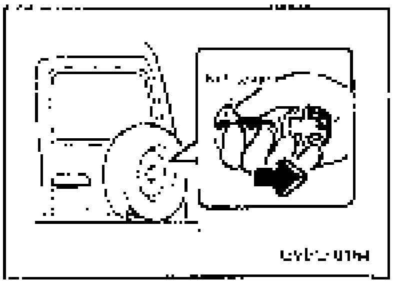
(7) When jacking up the vehicle, do so only until the tyres are slightly lifted from the ground.
It is dangerous to jack up the vehicle more than that much.

(8) It is very dangerous if the jack somehow slips, so never leave the vehicle on the jack in up position, and never shake the vehicle while it is raised.

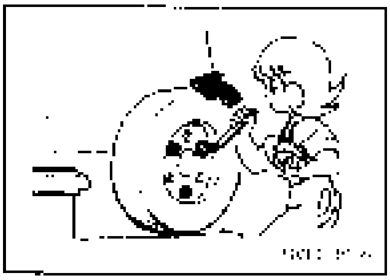
(9) When jacking up one side of a vehicle with limited differential, do not start the engine. The power of the engine could be transferred to the tyres that are still in contact with the ground and cause the vehicle to move.

Spare wheel

<Type A>



Check the air pressure of the spare tyre frequently and make sure it is ready for emergency use at any time.
Maintaining the spare wheel at the highest specified air pressure will ensure that it can always be used under any conditions (city, high speed cruising, varying load weight, etc.).
The spare wheel is stored on the outside of the back door. To remove the spare wheel, loosen the nuts securing it to the door with the wheel nut wrench. To prevent theft, on some models one of the spare wheel nuts is a lock nut.

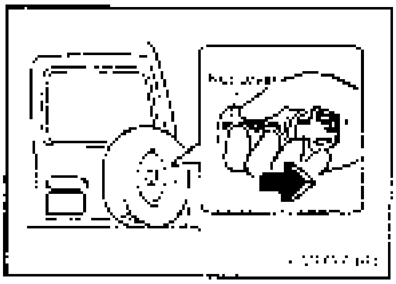


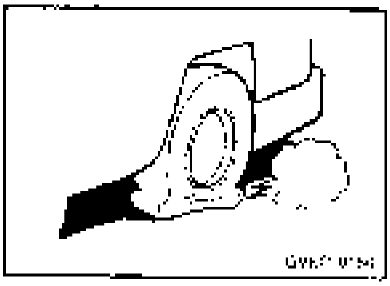
To remove the lock nut, insert the ignition key into the lock cylinder, pressing the nut cover with the key and turn it toward you until it will.
Then loosen the spare wheel nuts with the wheel nut wrench.
To remove the lock nut, replace the nut cover with the key still in the lock cylinder, pressing the nut cover onto the lock nut as far as it will go, then lock it by removing the key.

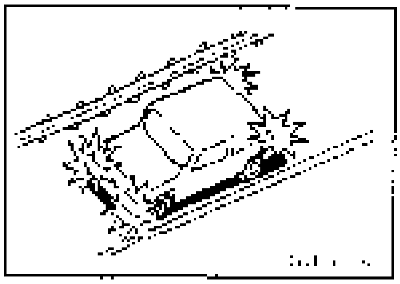
<Type B>

To remove the spare wheel, loosen the wheel cover, the wheel cover has a spring in it, then loosen the wheel nuts with the wheel nut wrench. To prevent theft, on some models one of the spare wheel nuts is a lock nut.

If a tyre is punctured







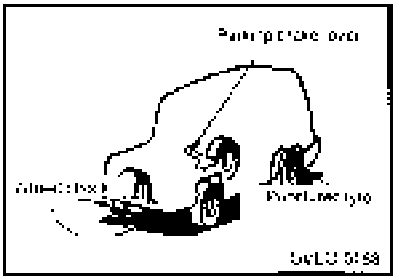
[illegible] key into the lock cylinder [illegible] with the key [illegible] toward you and [illegible] off. [illegible] the wheel [illegible]
[illegible] with the key [illegible]

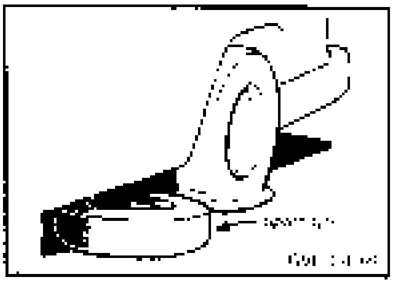
CAUTION

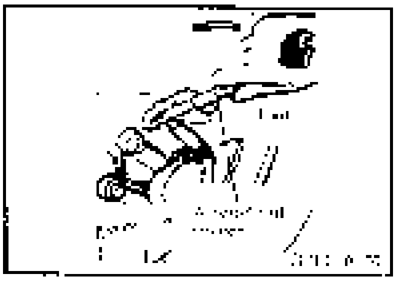
The spare wheel should always be securely in position.
If a flat tyre is changed, put the flat tyre in the spare wheel mounting position, and use the wheel nut wrench to secure it firmly.

If a tyre must be changed due to a puncture [illegible] following [illegible] safety. Parking the vehicle [illegible] traffic hazard or dangerous [illegible] and your vehicle's occupants, on a flat [illegible] in such a way that you will [illegible] of the vehicle while changing the tyre.

(1) Comply with local regulations [illegible] the protection of broken-down [illegible] held by switching on the hazard warning lamp and setting up a warning triangle flashing signal lamp [illegible] adequate distance from the vehicle. Others in the vehicle should get out of the vehicle and wait in a safe place.







(2) Position the vehicle on a flat, hard surface and apply the parking brake. To prevent the vehicle from rolling when it is resting on the jack, chock the wheel diagonally opposite to the one to be changed.

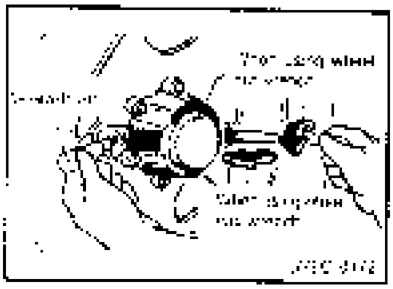
(3) Prepare the spare wheel, jack and wheel nut wrench.

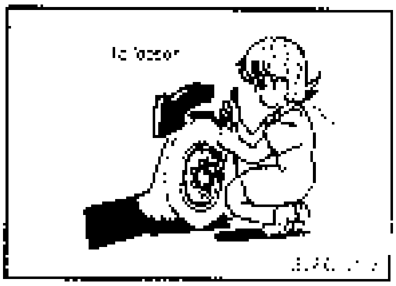
(4) The spare tyre should be placed flat, safely under the vehicle and near the jack for convenient access when ready to be mounted.

(5) If the vehicle is equipped with wheel caps, use the wheel cap wrench or the wheel nut wrench to remove the cap from the wheel.

NOTE

Use a piece of cloth or other similar material to prevent scratching the wheel when the wheel cap wrench or wheel nut wrench is used.





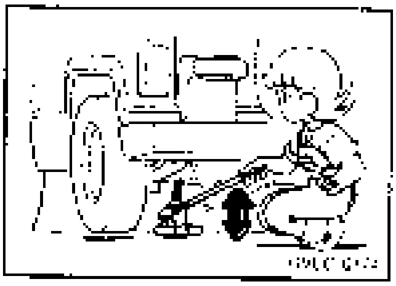
For vehicles with [illegible] [illegible]-wheel [illegible], remove the wheel caps as described below.

a) Move the wheel cap wrench or wheel nut wrench as shown in the figure so as to slightly lift the wheel cap so that there is a space. Insert a screwdriver in the space.

b) Remove the wheel cap with the wheel cap wrench or wheel nut wrench and [illegible] at the opposite side.

c) [illegible] as shown in the figure so as to remove the wheel cap.

5) Loosen the wheel nuts with the wheel nut wrench. Do not remove the wheel nuts yet.

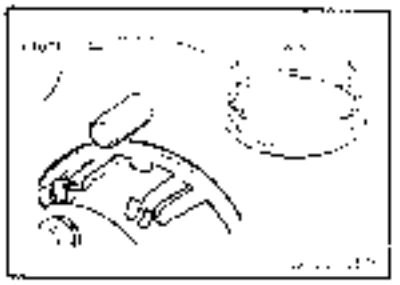


6) Refer to the section on "[illegible] jacking up the vehicle" to select a jack position from [illegible] at which to position the jack and then raise the vehicle until the tyre is slightly off the ground.
Remove the wheel nuts.

9 For a front wheel, remove the tyre and wheel as follows.

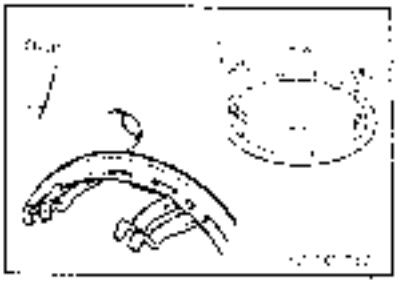
a Pull the lower part of the disc wheel toward you.

b While applying the disc wheel, lift it up and over the tab of the wheel centre mounting fixture, and remove it upward.



CAUTION

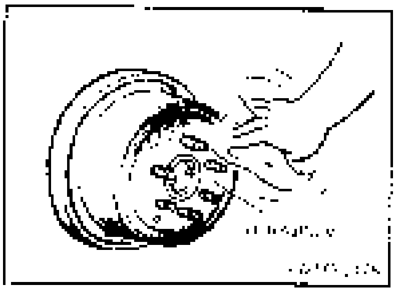
Be careful not to pull a disc wheel straight off, because to do so may damage the tab of the centre cap mounting fixture. For a rear wheel, remove the centre cap mounting fixture from the disc wheel.



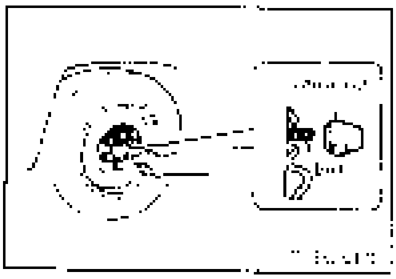
10 [illegible]

CAUTION

Note that the shapes of the mounting fixtures for the front wheels and those for the rear wheels are different.



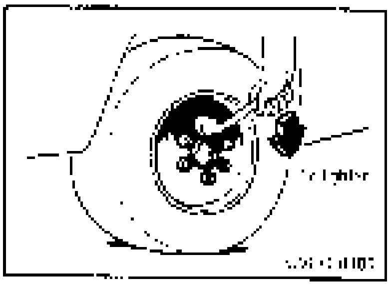
(10) Clean any dirt or dust, etc. from the hub bolts and the nut holes in the wheel, and then mount the spare tyre.



(11) With the tapered side of the wheel nuts facing toward the wheel, temporarily screw the nuts onto the bolts and tighten all the way by hand, to the extent that the wheel is not loose.

CAUTION

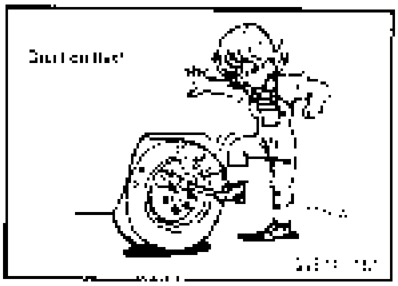
Never put oil on the wheel bolts or nuts, because this may cause them to become loose.



(12) Lower the vehicle slowly and then after [illegible] tighten the nuts until each one has been tightened to the specified torque.
Tightening torque:
10 to 12 kgm
(100 to 120 N·m, 72 to 87 lb·ft)

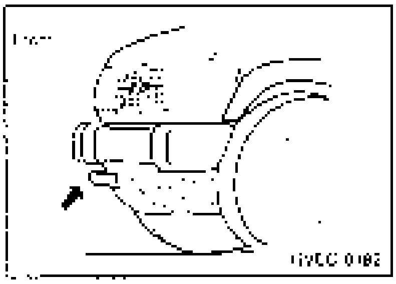
CAUTION

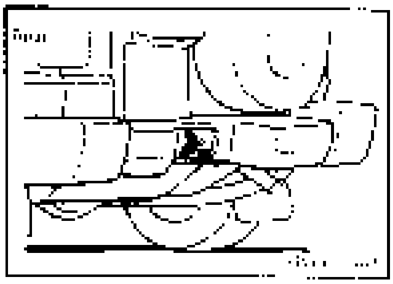
When tightening the wheel nuts, do not apply excessive force to tighten them, such as by using your foot to apply force to the wheel nut wrench, or by using a pipe or similar tool.



(13) Remove the chock from the wheel.
(14) Tap in the centre caps with your hand.
(15) The flat tyre should be repaired and balanced as soon as possible.
(16) After the spare tyre is once again replaced by the original tyre, adjust the inflation pressure to the correct value.

Towing





As shown in the illustration, the towing hooks are located at the right side of the frame (front) and at the centre (at the rear).
Using any part other than the designated towing hooks could result in damage to vehicle body.
The regulations concerning towing may differ from country to country. It is recommended that you obey the regulation of the country where you are driving your vehicle.
If your vehicle is to be towed, pay careful attention to the following points.

1. For vehicles with manual transmission, move the gearshift lever to neutral and the parking brake lever to the [illegible] position so as to [illegible] the towing hook.
   For vehicles with automatic transmission, move the selector lever to the "N" position.
2. Be sure the towing speed is within the legal limit. Also, vehicles with automatic transmission should never be towed at speeds excess of 20km/h (12mph) or for distance greater than 30km (19miles).
3. Turn the ignition switch to "ACC" to unlock the steering wheel. If you will be using the turn signals while towing, you should turn the ignition switch to the "ON" position.
4. Turn on the hazard warning lamps.
5. During towing, make sure that the rope is constantly maintained between the bumpers of both vehicles and that the vehicles travel at low speed. Avoid abrupt starting or stopping which might subject the vehicles to shock.
6. If the transmission is malfunctioning or damaged, do not tow faster than 20km/h (12mph); tow the vehicle with the rear wheels raised off the ground.
7. As the vehicle is equipped with a brake booster system, the brake boosting power will be lost and greater force will be required to operate the brake pedal.
8. If the vehicle is equipped with the power steering system, greater force will be required to operate the steering wheel.

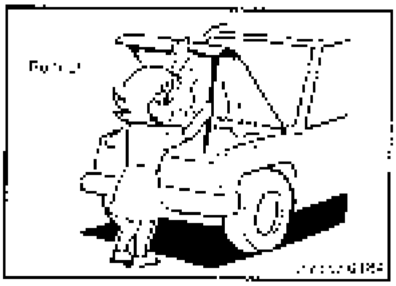
NOTE

Your vehicle should only be used to tow an other vehicle if the weight of the other vehicle is the same as or less than that of your vehicle.

CAUTION

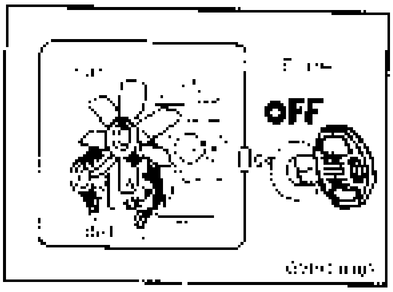
To prevent entry of exhaust gas from the towing vehicle, set the air selection lever on the heater control to the recirculation position.

Engine overheating

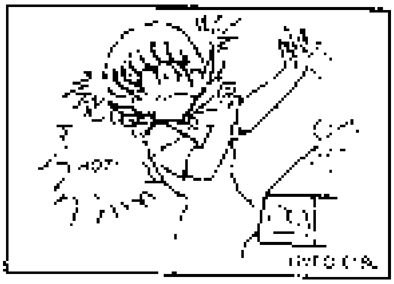


If the water temperature gauge indicates overheating in the red zone for a long time, the engine may be overheated. If this occurs, take the following corrective measures.

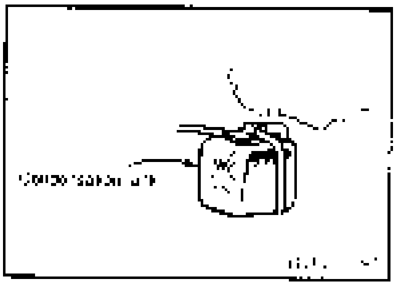
1. Stop the vehicle at a safe place.
2. With the engine still running, raise the bonnet to ventilate the engine compartment.



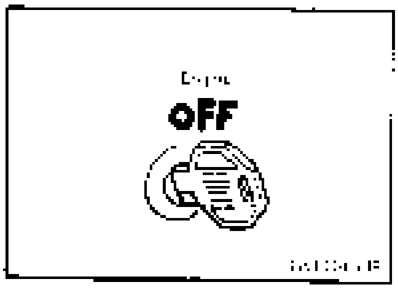
Confirm that the radiator fan is running. If the fan is not turning, stop the engine immediately and contact a GALLOPER dealer for assistance.



Take care, when opening the bonnet, not to be burned if the bonnet or its support rod is hot, or by escaping hot water or steam.



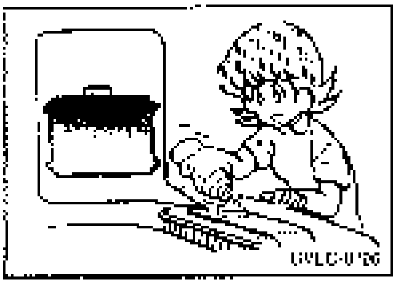
Be careful not to be burned by steam blowing from the condensation tank cap.



3. After the engine coolant temperature has dropped, stop the engine.

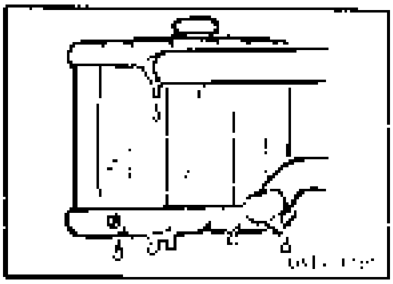
GVEO-0104

4. Check the coolant level in the reserve tank. If there is none, make sure that the engine has cooled down before removing the radiator cap, because hot steam or boiling water otherwise will gush from the filler port and may scald you.



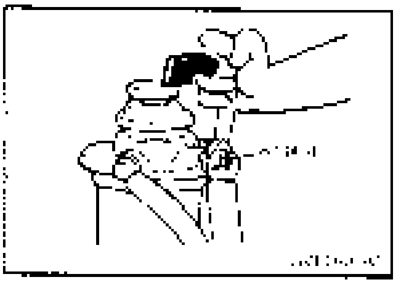
GVLO-0126

Add coolant to the radiator and the reserve tank if necessary. Refer to the "Fill..." section. Adding cold water rapidly when the engine is hot could cause the cylinder head and/or block to crack, so be sure to add the water a little at a time while running the engine.



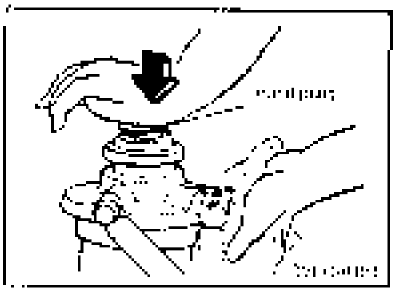
5. Examine the radiator hoses for coolant leakage and the V-belt for looseness or damage.
If there is anything wrong with the cooling system or V-belt, have the system corrected at a GALLOPER dealer.

Bleeding the fuel system (diesel-powered vehicles only)



The fuel system should be bled to remove air as described below if the fuel supply is exhausted during travel.

1. Loosen the air plug at the top of the fuel filter.



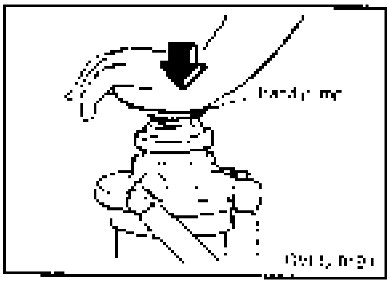
2. Pump the hand pump until there are no more bubbles in the fuel coming out of the air plug. When doing this, place a cloth around the air plug to prevent the escaping fuel from spraying about.
3. Tighten the air plug when there are no more bubbles in the fuel.
4. Continue pumping until the hand pump becomes stiff.
5. Finally, check to be sure that there is no leakage of fuel. If in doubt, consult your nearest GALLOPER dealer.

CAUTION

(1) Do not smoke or have any other open flame near the vehicle while bleeding the fuel system.
(2) Be sure to carefully wipe up any water drained out in this manner, because the fuel mixed in the water might be ignited and result in a fire.

Removal of water from the fuel filter (diesel-powered vehicles only)

If the warning lamp illuminates during driving, it indicates that water has accumulated in the fuel filter. In this case, remove the water as described below.



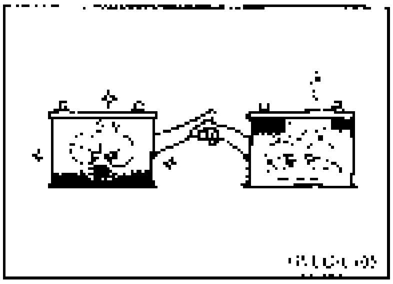
1. Rotate the drain plug at the bottom of the fuel filter.
2. Operate the hand pump slowly 6 to 7 times in order to force the water out through the drain plug.
3. Rotate the drain plug when water no longer comes out.
4. Loosen the air plug and bleed the air. (Refer to "Bleeding the fuel system".)
5. Check to be sure that the warning lamp illuminates when the ignition key is turned to "ON" and that it goes off when the engine is started. If in doubt, consult your nearest GALLOPER dealer.

CAUTION

(1) Do not smoke or have any other open flame near the vehicle while bleeding the fuel system.
(2) Be sure to carefully wipe up any water drained out in this manner, because the fuel mixed in the water might be ignited and result in a fire.

Emergency starting

If the engine cannot be started because the battery is weak or dead, the battery from another vehicle can be used with jumper cables to start the engine.

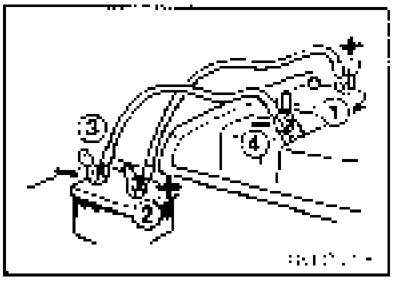


CAUTION

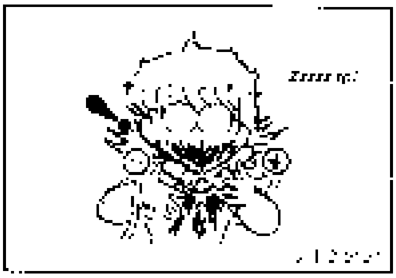
1. Do not attempt to start the engine by pulling or pushing the vehicle.
2. Use only specified jumper cables with sufficient cross-sectional area.

The following points should be observed:

1. Both batteries must be 12 V. The capacity (Ah) of the battery supplying current should not be significantly below that of the discharged battery.
2. Use only heavy duty jumper cables.
3. A discharged battery can freeze. A frozen battery must be thawed out before connecting the jumper cables.
4. There should be no contact between the two vehicles, otherwise a current may flow when the positive terminals are connected.
5. The discharged battery must be correctly connected to the vehicle's electrical system.
6. Run the engine of vehicle supplying current.



7. Connect the jumper cables as follows:
   (1) Connect one end of one jumper cable to the positive terminal of the flat battery and the other end to the positive terminal of the booster battery.
   (2) Connect one end of the other jumper cable to the negative terminal of the booster battery, and the other end to the engine block of the vehicle with the flat battery at the point farthest from the battery.

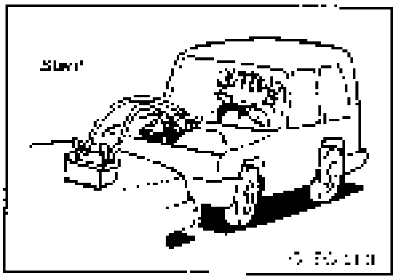


CAUTION

(1) Do not allow the jumper cable clips to touch one another.

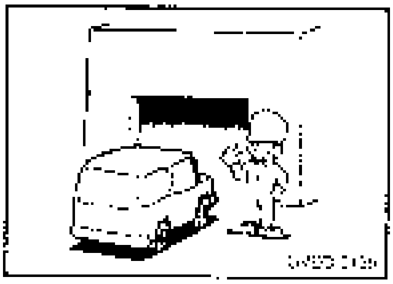
(2) Do not connect the jumper cable to the negative terminal of the flat battery. The battery generates explosive gas, and a spark caused when the jumper cable is disconnected from the negative terminal could ignite this gas and cause an explosion.

(3) Be careful that the jumper cable does not become caught in the cooling fan, etc.



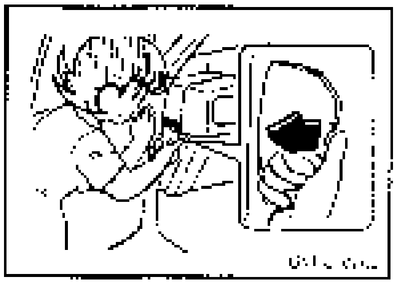
4. Start engine as described in "Starting the engine".
5. After the engine is started, disconnect the cables in the reverse order.

Brake pad wear alarm



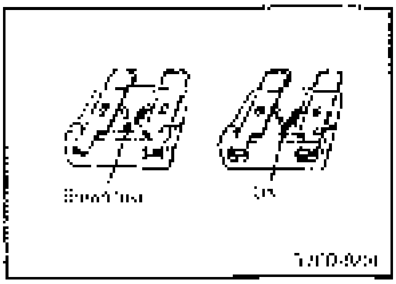
The disc brakes are provided with an alarm device which produces a squealing indicator sound while driving when the brake pads have worn down near to the service limit.
If such a sound is produced, have the brake pads replaced at a GALLOPER dealer.

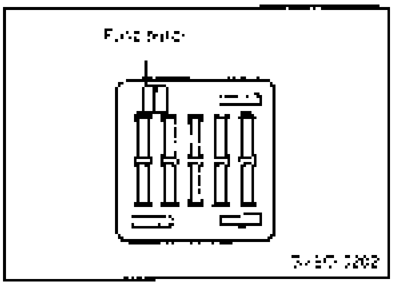
Fuses



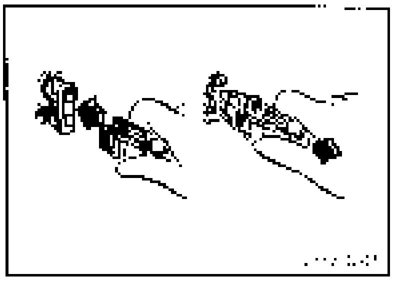
To prevent damage to the electrical system due to short-circuit or overloading, each individual current circuit is provided with a fuse. The fuse housing is located on the side of the instrument panel on the driver's side as shown in the illustration.

Changing a fuse





1. Before replacing a fuse, be sure to turn all the electrical system concerned.
2. Remove the fuse housing cover.
3. Referring to the fuse load capacity table, check the fuse pertaining to the problem.
4. Replace the fuse if necessary. There is a fuse puller in the fuse housing inside the vehicle. Remove the fuse puller out of the fuse housing and then, as shown in the illustration, pull the fuse straight out from the fuse housing. If it is not blown, something else must be causing the problem. Contact a GALLOPER dealer to have the problem checked.
5. Insert a new fuse of the same capacity securely into the clip.



CAUTION

(1) If the newly inserted fuse blows again after a short time, have the electrical system checked by a GALLOPER dealer to find the cause of the short circuit and rectify it.

(2) Never use a fuse with a capacity larger than that specified or any substitute such as wire, foil, etc. doing so will cause the circuit wiring to heat up and could cause a fire.

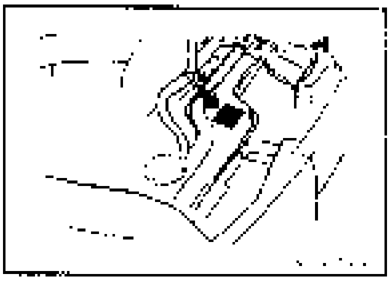
Things you should know

Chassis number
Vehicle identification number
Engine number

Chassis number

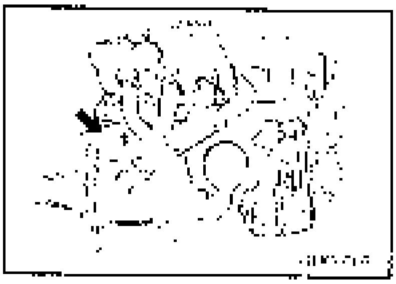
The chassis number is stamped on the side of the frame near the right rear wheel.

Vehicle identification number (VIN)

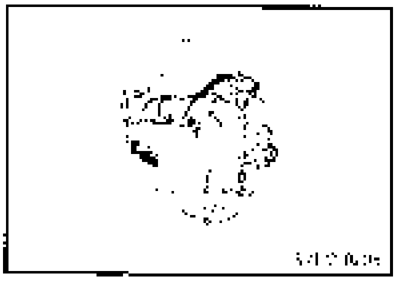


The vehicle identification number plate is [illegible] mounted as illustrated.
The plate shows model code, vehicle ID no. (VIN) and body color code [illegible].

Engine number



The engine number is stamped on the [illegible] cylinder block as shown in the illustration.



Service data

Scheduled maintenance table
Specifications
Lubrication chart

SCHEDULED MAINTENANCE TABLE

The following maintenance services must be performed to assure good emission control and performance. Keep receipts for all vehicle emission services to protect your warranty. Where both mileage and time are shown, the frequency of service is determined by whichever occurs first.

R : Replace   I : Inspect and, after inspection, clean, adjust, repair or replace if necessary

No	DESCRIPTION — KILOMETERS x 1000	7.5	15	30	45	60	75	90	105	120
	MONTHS	6	12	24	36	48	60	72	84	96
	ENGINE CONTROL SYSTEM MAINTENANCE (DIESEL)									
1	ENGINE OIL & OIL FILTER					SEE NOTE (1)				
2	AIR CLEANER FILTER		I	R		R		R	I	R
3	FUEL SYSTEM LEAKS		I	I	I	I		I	I	I
4	FUEL FILTER			R		R		R		R
5	VALVE CLEARANCE		I	I	I	I		I	I	I
6	INJECTION TIMING			I		I		I		I
7	TIMING BELT					I		R		
8	DRIVE BELT (FOR WATER PUMP/ALTERNATOR)		I	I	I	R		I	I	R
9	ENGINE IDLE SPEED		I	I		I		I	I	I
10	INJECTION NOZZLE (IF EXHAUST GAS INCLUDES BLACK SMOKE)			I		I		I		I

Note: (1) Replace the engine oil every 7,500 km or 6 months whichever occurs first after first replacement at 7,500 km

F: Replace I: Inspect and clean, replace or adjust if necessary

NO.	DESCRIPTION	KILOMETERS X 1,000	15	30	45	60	75	90	105	120
		MONTHS	12	24	36	48	60	72	84	96
	ENGINE CONTROL SYSTEM MAINTENANCE (GASOLINE)									
1	ENGINE OIL & FILTER		Every 15,000Km (9)							
2	DRIVE BELT (AIR PUMP FITTING)			I		R		I		R
3	FUEL FILTER					R				R
4	FUEL LINES, FUEL HOSES & CONNECTIONS			I	I	I	I	I	I	I
5	TIMING BELT					I		R		
6	VAPOR HOSE & FUEL FILLER CAP					I				I
7	VACUUM/CRANKCASE VENTILATION HOSES					I				I
8	AIR CLEANER FILTER		I	R	I	R	I	R	I	R
9	SPARK PLUGS			I	R		I	R		
	SPARK PLUGS (PLATINUM COATED S.O.L.O.N.)							R		

R: Replace I: Inspect and, after inspection, clean, adjust, correct or replace if necessary

NO	DESCRIPTION	KILOMETERS X 1000	7.5	15	30	45	60	75	90	105	120
		MONTHS	6	12	24	36	48	60	72	84	96
	GENERAL MAINTENANCE										
1	ENGINE COOLANT		SEE NOTE (2)								
2	MANUAL TRANSMISSION OIL		R		I	R		I	R		I
3	AUTOMATIC TRANSMISSION OIL					R			R		
4	REAR AXLE OIL (WITH LSD)		R		I	R		I	R		I
5	CLUTCH/BRAKE PEDAL FREE PLAY				I	I		I			I
6	CLUTCH/BRAKE OIL RESERVOIR				I	I	I	I			I
7	BRAKE HYDRAULIC FLUID				R		R		R		R
8	FRONT BRAKE PAD				I	I	I	I	I		I
9	FRONT BRAKE CALIPERS/CYLINDERS/DISC				I	I	I	I	I		I
10	REAR BRAKE DRUMS/LININGS/CYLINDERS				I		I	I	I		I
11	HAND BRAKE				I		I	I	I		I
12	TIRE CONDITION/PRESSURE		* Temporary check and correction according to the condition								
13	EXHAUST SYSTEM MOUNTING				I		I	I		I	I
14	STEERING JOINT/RACK-BOX/OIL LEAKS				I		I	I		I	I
15	SUSPENSION JOINT/SEATS				I		I	I		I	I
16	FRONT WHEEL BEARING				I		I	I		I	I
17	ENGINE COOLANT HOSES				I		I	I		I	I
18	BRAKE PIPE CORROSION				I		I	I		I	

Note (2) For every 24 months "R"

MAINTENANCE UNDER SEVERE USAGE CONDITIONS

The following items must be serviced more frequently owners normally used under severe driving conditions. Refer to the chart below for the appropriate maintenance intervals.

R : Replace I : Inspect and if necessary inspection, clean, adjust, lubricate or replace if necessary

MAINTENANCE ITEM	MAINTENANCE OPERATION	MAINTENANCE INTERVALS		DRIVING CONDITION
		GASOLINE	DIESEL	
ENGINE OIL AND FILTER	R	EVERY 5,000 KM OR 3 MONTHS	EVERY 3,000 KM (GENERAL EXPORT) EVERY 4,000 KM (E.U. EASTERN EUROPE, CIS, ISRAEL)	A, B, C, F, G
AIR CLEANER FILTER	R	MORE FREQUENTLY		C, E
SPARK PLUGS	R	MORE FREQUENTLY		B, H
TIMING BELT	R	EVERY 60,000 KM OR 48 MONTHS		D, E, F, G
BRAKE PADS, CALIPERS AND ROTORS	I	MORE FREQUENTLY		C, D, G, H
REAR BRAKE DRUMS/LININGS	I	MORE FREQUENTLY		C, D, G, H
PARKING BRAKE				
STEERING GEAR/RACK LINKAGE	I	MORE FREQUENTLY		C, D, E, F
BOOTS/LOWER ARM BALL JOINT				

SEVERE DRIVING CONDITIONS

A - Repeated short distance driving
B - Extensive idling
C - Driving in dusty, rough roads
D - Driving in areas using salt or other corrosive materials or in very cold weather
E - Driving in sandy areas
F - More than 50% driving at heavy engine load during hot weather above 32 C (90 F)
G - Driving in mountainous areas
H - Towing a trailer

Specifications

Engine	
Type	
2.5NA	D4BA
2.5T/C	D4BF
3.0GSL	G6AT
2.6GSL	4G64
2.5 INTERCOOLER T/C	D4BH
Piston displacement (cc)	
D4BA	2,476
D4BF	2,476
D4BH	2,476
G6AT	2,972
4G64	2,555
Bore x Stroke (mm)	
D4BA	91.1 X 95
D4BF	91.1 X 95
D4BH	91.1 X 95
G6AT	91.1 X 76
4G64	91.1 X 96
Compression	
D4BA	21
D4BF	21
D4BH	21
G6AT	8.9
4G64	8.8
Firing order	
D4BA	1-3-4-2
D4BF	1-3-4-2
D4BH	1-3-4-2
G6AT	1-2-3-4-5-6
4G64	1-3-4-2
Lubrication	
Oil pump type	
D4BA	Rotor
D4BH	Rotor
D4BF	Rotor
G6AT	Rotor
4G64	
Oil capacity (L)	
D4BA	3.5
D4BF	3.5
D4BH	3.5

G6AT	4.7
4G54	4.8
Fuel system	
Fuel tank capacity (L)	
D4BA(SWB)	60
(LWB)	92
D4BF(SWB)	67
(LWB)	92
D4BH(SWB)	75
(LWB)	97
G6AT(SWB)	75
(LWB)	97
4G54(LWB)	92
Clutch	
Type	
D4BA	Dry single disc
D4BF	Dry single disc
D4BH	Dry single disc
G6AT	Dry single disc
4G54	Dry single disc

Operation type	
D4BA	Oil pressure type
D4BF	Oil pressure type
D4BH	Oil pressure type
G6AT	Oil pressure type
4G54	Oil pressure type
Transmission	
Type	
5-speed	
D4BA	Synchromesh transmission
D4BF	Synchromesh transmission
D4BH	Synchromesh transmission
G6AT	Synchromesh transmission
4G54	Synchromesh transmission
Reverse	
D4BA	Constant-mesh transmission
D4BF	Constant-mesh transmission
D4BH	Constant-mesh transmission
G6AT	Constant-mesh transmission
4G54	Constant-mesh transmission

Final drive ratio	
1st	
D4BA	4.438
D4BF	3.867
D4BH	3.818
G6AT	3.818
4G54	3.867
2nd	
D4BA	2.355
D4BF	2.136
D4BH	2.257
G6AT	2.257
4G54	2.136
3rd	
D4BA	1.508
D4BF	1.360
D4BH	1.305
G6AT	1.305
4G54	1.360
4th	
D4BA,D4BF,D4BH,G6AT,4G54	1.000
5th	
D4BA	0.827
D4BF	0.866

D4BH	0.829
G6AT	0.829
4G54	0.866
Reverse	
D4BA	4.142
D4BF	3.578
D4BH	3.696
G6AT	3.922
4G54	3.578
Oil capacity, l	
D4BF,D4BA,4G54	6.2
G6AT,D4BH	6.7

Automatic transmission

	3.0GSL	12.1GI
1st	2.926	2.926
2nd	1.493	1.493
3rd	1.000	1.000
4th	0.730	0.686
Reverse	2.703	2.703

Transter	
Type	Constant-mesh transmission
Gear ratio	
H	1.000
L	1.925
Suspension	
Front	
Camber	1°30'
Caster	2°55'
Toe-in	5.0±3 mm
Rear	
Camber	0
Toe-in	3 mm
Steering system	
Steering gear type	
Power steering	Variable belt & nut type
Angle	
Inside	32°30'
Outside	28°00'

Brake	
Type	
Front	Disc
Rear	Drum
Booster type	Vacuum
Brake fluid	DOT3
Electrical system	
Battery capacity (AH)	
2.5 DSL NA,T/C,TCI	68 or 100(cold zone)
3.0GSL,2.6GSL	68
Alternator capacity (A)	
2.5 DSL NA,T/C TCI	65 or 75(W/ABS)
3.0GSL,2.6GSL	75 or 90(W/ABS)
Start motor capacity (Kw)	
2.5 DSL NA T/C,TCI	2.0 or 2.2
3.0GSL,2.6GSL	1.2
Ignition type	
2.5 DSL NA,T/C,TCI	Compression ignition type
3.0GSL,2.6GSL	Spark ignition type

Lubrication chart

Items	Oil & Grease Standard	Qty (liter)
Engine oil	Select engine oil of the proper SAE viscosity number according to the atmospheric temperature	3.0 GSI : 4.7 3.5 DSI : 6.5 2.6 GSI : 4.5
Automatic transmission	DIAMOND ATF SP-2	7.7
Manual transmission and transfer oil	Hypoid gear oil API GL-4, or higher SAE viscosity SAE 75w/85w	Transmission oil 2.0GSi : 2.7 2.5DSI (KA TCI : 2.2 2.5DSI (TCI : 2.7 2.6GSi : 2.0 Transfer oil : 2.0
Brake fluid & clutch fluid	SAE J1703/DOT 3	As required
Power steering fluid	ATF DIAMOND II & ATF SP	As required
Differential gear oil	Hypoid gear oil API GL-5, or higher SAE viscosity SAE 80w/90w (for conventional type)	Front : 1.1 Rear No.6 : 1.6 No.7 : 2.3
	MITSUBISHI Genuine Gear oil part No. 8149690D5 or CASTROL HYPOY LS (for limited slip differential type)	

غالوبر ٢